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THE
MONTHLY REVIEW
OF
DENTAL SURGERY,

BEING THE JOURNAL OF
THE BRITISH DENTAL ASSOCIATION.

EDITED BY
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VOL. I.
JANUARY TO DECEMBER, 1880.

LONDON
PUBLISHED FOR THE PROPRIETORS BY
SMITH, ELDER, & CO., WATERLOO PLACE.

1880.

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THE MONTHLY REVIEW

OF

DENTAL SURGERY.

No. III.

MARCH, 1880.

VOL. IX.

The Dentists Act.

THE Dentists Act has, for some months past, been the subject of frequent discussion with dentists of all kinds and of all classes. On public occasions it has several times, already, formed the main subject of discourse. The time has therefore come when the principles and objects of the Act will admit of brief description; and for this, accordingly, the occasion of our first issue is not inopportune.

The great and central principle of the Act is the provision, for the use of the public, of a race of competent Dental Surgeons; all else in the Act is secondary and subservient to the development and maintenance of this over-ruling principle. To the highest Medical authority in the realm—the General Medical Council—is entrusted the care, supervision, and maintenance of the education of the Dental Surgeon. An inspection of the Dental sections of the Medical Council's minutes, will satisfy those capable of feeling satisfaction at any impartial measure, that the educational provisions are already fulfilled in the curriculum determined by the Council and adopted by the Licensing Bodies. And it must be admitted that the main purpose of the Act has been thereby completely fulfilled.

When discussing at considerable length the question of Dental education, Mr. Erichsen, whose great eminence as a surgeon and as a teacher of surgery in one of our most popular medical schools constitutes him an acknowledged authority on the subject of professional education, said, "I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it."*

The public is equally interested, though less vitally, in the effective development of the second principle of the Act, the production and annual publication of a Register wherein shall be recorded the name, address, and qualification of every person who can rightfully take or use any of the titles used to designate Dental Practitioners.

Up to the time of the passing of the Dentists Act, Dental Surgery was practised without let or hindrance by whosoever thought fit to undertake it, with or without qualifications, and with or without a competent knowledge of the subject. The law permitted this freedom, and many persons accepted it. By the more educated practitioner, qualifications, special or general, were sought, or at all events such competent knowledge of the subject was gained through private means, as the opportunity of the individual allowed. By such persons, Dental Surgery was practised as a profession; by the less fortunately placed in respect of education, it was practised as a trade. Between the two classes no definite line could be drawn, but each in the eyes of the law had a right to practise, consequently each person who had fairly entered upon practice before the passing of the Act, had a right to a place in the Dentists' Register. This second principle of the Dentists Act has also been carried into effect. Over five

* *Monthly Review of Dental Surgery*, July, 1879.

thousand names appear in the columns of the Register, where those who were deemed most competent to form a judgment as to the number of existing Dental Practitioners, expected to find scarcely more than half that number. No doubt many quite destitute of proper claims have obtained a place therein; but the registration of persons who hold no recognised diploma, ceased on the first of August last; hence the evil of having upon the Register persons of untested acquirements, is limited to the present generation, a small and short-lived matter, perhaps, in public estimation, and in the life-time of a profession, but one of considerable, though still of secondary importance to the profession itself.

Now before we begin to accord blame, it will be well to learn where the blame of incorrect registration lies. This is no difficult task. The Dentists Bill was drawn on the lines of the *Medical Act* (1858). Under the latter, persons who commenced to practise before 1815—that is, before the passing of the Apothecaries' Act—were allowed to register on their own unattested declaration, and about 400 persons without diplomas were in 1859, so registered in the Medical Register as “in practice before 1815.” A similar course was followed in the Dentists Act, excepting that the declaration was strengthened in stringency by adding the term, “*in bonâ fide*” practice, and the signature of the applicant for registration had to be witnessed, and the name of the witness recorded. Furthermore, the penal clause of the Act was printed in large type on each declaration form, and was so placed that a person could not write his signature therein without seeing what might and ought to be the result, if he by false representations obtained registration. It has been objected that *bonâ fide* is an indefinite term, but its very frequent use in legal documents, and in legal pleadings, indicates that Law Courts

would find no difficulty in determining in any particular case what constituted *bonâ fide* practice.

The Pharmacy Act, 1868, requires that, for registration, persons without Pharmaceutical qualifications must produce the evidence of one medical man or magistrate, in addition to their own written declaration, that they were in business as Chemists and Druggists before 1868; yet, notwithstanding this precaution of medical evidence, many obtained registration in the Chemists' and Druggists' Register who had no just claim to a place therein, and of these a certain number have been since struck out. With such tried experiments before us, the success of which had not been seriously questioned, no justifiable fault can be attached to the form of declaration used in the Dentists Act. Had the Act required the Registrar to examine and test the validity of the claims of each candidate for registration, it would have imposed on him a task simply impossible. But the Act authorised no such impracticable and arbitrary proceeding. It throws the blame of incorrect, false, or fraudulent registration upon the head of the person who is so registered, and no one can for a moment doubt that the blame certainly lies in the right place. Freely admitting that the Register sorely needs correction, the question now arises by whom and by what means the correction is to be made? We need not seek far for an answer. For the sole purpose of correcting the Dentists' Register the Act provides for the appointment and maintenance of a Committee of five members of the Medical Council, and the Committee is appointed—a Dental Executive Committee—and this Committee has, in fact, been long since organised, with a fixed code of "Standing Orders" for its guidance in transacting business; but before such Committee can act *efficiently*, cases of incorrect registration must be brought before it, and in such a form and

under such circumstances as will enable the Committee effectually to deal with them. This work of production must be done by those who have the requisite knowledge, and who are most deeply interested in the correctness of the Register; that is to say it must be done by the Dentists themselves, in whose sole possession the required information lies, or most undoubtedly the correction will be left undone for ever.

Furthermore, should any point arise in which the application of the Act requires for its determination the decision of a law court, that determination must be obtained by the Dentists themselves. The Medical Council is responsible for the administration of the Act so far only as the sections admit of undisputed interpretation.

It is in the power of any person, under section 35 of the Act, to commence proceedings against any other person who has registered by means of a false declaration. Probably, however, few persons will care to undertake, single-handed, so unpleasant a task; yet the correction is not on that account the less needed. To obviate the difficulty of personal action, the British Dental Association, following the example of the Pharmaceutical Society, has undertaken as one of its duties the investigation of charges of incorrect registration, and the task of bringing them before the Medical Council, or, if need be, of a legal tribunal. Now the question arises, does the Profession really care for the correction of the Register? Great complaints have been made, but the true answer to this question will be definitely determined by the amount of assistance in the performance of the task the British Dental Association receives at the hands of the individual members of the profession. General experience shows that individuals will not undertake unsupported action, and if they will not go out of their way to support the Association in dis-

charging this duty, it is quite clear that they do not really care for the correction of the Register. In other words, the second principle of the Act—correct registration—so far as it relates to existing practitioners, is to the bulk of the profession a matter of comparative indifference; and if so, the business of correction must, in some part, remain in abeyance until the profession is endued with more energy for the discharge of an obvious duty, and the individual members with that degree of self-respect which compels some amount of personal sacrifice for the general good of their calling and of the public. But such a course of delay does not admit of even plausible justification, especially by those who have complained of inaccuracy in registration. The lapse of time will not condone incorrect declarations, hence postponement is not fair to those who have wrongly registered, many of whom, if it were clearly shown that they made the declaration under an erroneous reading of the Act, would at once relinquish a false position by withdrawing their names from the Register.

The third principle of the Act provides for certain immunities and privileges granted to registered practitioners on condition of the suitable education of all who in the future enter the profession; and the privileges are rightly extended to all who were in practice at the time of the passing of the Act. They consist of the exclusive right to the use of distinctive professional titles; the legal right to recover fees; exemption from serving in any public offices, such as juries, parish offices, and serving in the Militia. It is needless to enter upon the considerations of those provisions relating only to the so-called machinery for the carrying out of the Act.

To suppose that any Act would meet with the absolutely unanimous approval of so mixed a body of men as

Dentists have hitherto been, would itself be unreasonable. But it cannot, with any show of justice, be contended that the Act is not highly satisfactory and successful. The disapproval of a few persons who would, for the furtherance of their own ends, deprive a large body of men of a right assured by custom, by education, and by a diploma, authorised by the legislature after a full consideration of the right in question, can form but a very insignificant count against the success of the Act. Since August 1st, 1879, persons holding either the Licentiate'ship in Dental Surgery of one or other of the Surgical Corporations, or one of two recognised foreign qualifications, can, with certain Students specially excepted by the Medical Council, alone be entered in the Dentists' Register.

It would be by an oversight only that the legislature would commit the absurd blunder of enacting that a person qualified by a licence from a Surgical Corporation, declaring his fitness to practise the art and science of Dental Surgery, is not a Dental Surgeon. If such an error were, against common justice and common sense, fortuitously committed, the fault would attach to the licentiates who failed to furnish the legislature with the requisite information at the proper moment.

At the largest meeting of Dental practitioners ever yet held, the Association, by a unanimous vote, was deputed to look after the interests of the profession. But something more than a vote at a public meeting is required to enable the Association to exert, with full effect, the power so given. The members of the profession, more especially those resident in the country, must support the Association and place this and such like questions, by a short statement of facts, before the members representing their respective towns or counties. General action, by means of our Association, in the interest

of the profession, requires some sacrifice of time, and to a slight extent, of money, on the part of the persons interested in its success.

In order that the Association may represent the Dental Profession as fully as the British Medical Association represents the Medical profession, a relatively corresponding amount of support by Dental practitioners must be given to the former body. The Dentists Act is all gain and no loss, though the great value of the gain is not yet fully recognized. In order that the gain shall be utilized speedily and to the utmost, the members of the profession must, as pointed out in Mr. Turner's able address at Manchester, sink all minor differences of opinion and unite in one body for the purpose of maintaining and of giving full effect, in a liberal and public spirit, to the well considered provisions of the "ACT TO AMEND THE LAW RELATING TO DENTAL PRACTITIONERS."

The British Dental Association.

ALTHOUGH an Act of Parliament is a powerful instrument in the hands of active agents who may be determined to carry out its provisions, it is in itself, like all other instruments, if not quite inert, at best but passive in enforcing its objects. The fact of its existence may call into being certain arrangements which will, by their inevitable action, ultimately make its presence felt both by those for whose guidance it was more immediately framed, and by the community at large. But such a process must necessarily be slow in its movement, and, unless supplemented by more direct measures, the abuses which the Act was intended to remedy may die a lingering death; or perhaps under the ingenuity and pertinacity of those whose aim it is to perpetuate them, assume a different

guise, and thereby go far to neutralize some of the provisions of a most useful enactment.

The Dentists Act has united the Dental Profession in name, but to say that it has harmonized all its discordant elements, would be to assert much more than the framers of the Act ever pretended to. The very liberality of its provisions, which, in the opinion of many, was one of its chief virtues, has given great offence to some, and afforded a chance to a large number of persons to claim protection and privileges to which they had no previous right, and which claims were in no sense whatever created by its existence.

It was with the recognition of something like this state of affairs that the British Dental Association was formed a year ago; and, although there is now for the first time offered a pressing invitation to the profession generally to join its ranks, it has all along been making its influence felt. If it has not yet taken active steps to purge the swollen contents of the first published Dentists' Register the Association has not been idle in devising plans which are likely to be all the more efficacious when put into execution, in that they have been cautiously and considerably matured. It has, so far, been able to protect the Act from the machinations of those who would fain disturb at least one of its most prized privileges; and if it succeed in this matter alone—as it will most assuredly do if it have that amount of support extended to it by the Dental Profession which is extended by the Medical Profession to the British Medical Association, which from their similarity of object and organization it has a right to expect—its existence would be fully justified.

Arrangements are now being completed which will enable the Executive to encourage and foster the formation of Branch Associations of its Members in the provinces,

and so make the Dentists Act a living spirit diffusing a quickening influence throughout the whole profession, and also enable the Association to carry out all the objects that it has in view with that vigour which is essential to success.

The activity of the Association is manifested in the issue of this Journal, which it is confidently expected will inaugurate a new era in the Periodical Dental Literature of this country, and raise it to the position which it is entitled to occupy in professional circles. As the REVIEW is the property of the Association, it will be free from the terrible necessity of showing a balance of profit as the result of every issue. The higher the revenue the greater will be the purchasing power of the Editors, and the consequent efficiency of the Journal. It is, in short, a co-operative periodical, the profits of which are returned to the subscribers in kind.

It is gratifying to think that an institution so new to the Dental Profession as the British Dental Association, should have won the confidence of so many of its members in so short a time. If it has done much work it has also received much encouragement; and although the Association has laboured on in silence through much obloquy and misrepresentation, now that it is able to speak for itself we may reasonably expect that its influence will daily extend, and that its early promise and vigour will become yet more promising and vigorous.

Notice to Intending Members.

FOR the convenience of those who may desire to be enrolled as Members of the British Dental Association, and for the saving of correspondence respecting the membership, blank proposal forms are enclosed in each copy of the March issue of the journal. Any person who desires to

join the Association must fill in the form and transmit it, with one guinea subscription for the current year, to the Hon. Secretary, J. S. Turner, Esq., 12, George Street, Hanover Square, W. The journal will be posted to each Member of the Association on the day of its publication.

The "Missouri Dental Journal" on Reform in England.

By CHAS. S. TOMES, M.A., F.R.S.

IN the *Missouri Dental Journal* for January last is an article upon "Dental Reform," by "our English correspondent," which contains some mistakes as to facts which seem to call for correction, lest if left uncontradicted, they may deceive those of our Transatlantic brethren who do not happen to be familiar with the circumstances.

Those sufficiently interested in the matter can judge for themselves of the accuracy and fairness of the account of the "Manchester meeting." I will pass at once to an unjustified accusation of bad faith. "While the public were assured the promoters of registration were actuated by the loftiest motives, and were very anxious to provide a superior class of dentists, the arguments addressed to the latter, to give (? get) their support, were of the most sordid character; and it was undisguised that the real object was to *limit the number of dentists*, and to prevent by a legal enactment which did not reveal the intention, but that could be manipulated for that purpose, the advent of any more of those finger-skilled Americans whom patients persisted in preferring to the rude amalgam stuffers." To this imputation of bad faith, and of the insertion of any clause carrying concealment of real intention, I simply give an unqualified denial; when the anonymous writer gives chapter and verse to substantiate his statement, and writes as I do, in his own name, then his dicta shall, if they prove to require it, be answered in detail.

Later occurs the following sentence:—"Occasionally the fact was revealed that the Act was aimed at the Americans, but not of late, as this had to be kept as much as possible

a secret; for if what the American gentleman, who seems to be in the confidence of the reformers, so frankly stated at the meeting of the American Dental Association—that ‘the passage of the English law was caused by the presence of American graduates in Europe,’ had come out, no parliament would have sanctioned it, &c., &c.” This refers, I suppose, to a speech of Dr. Bogue, to which we should have taken exception as soon as we read it, had not feelings of personal friendship restrained others as well as myself from entering into a controversy with him. He was “in our confidence” in so far that we all talked to him with perfect freedom of our aims and intentions, which in the hurry of his visit he strangely misunderstood, and quite unintentionally misrepresented, if indeed he has been correctly reported.

Our Act would, I imagine, have been passed as surely and as soon had there not been a single American graduate in Europe, its real object being identical with its avowed one, that of securing a special education for, and so raising the status of, dentists in Great Britain.

The soreness of feeling which has arisen in the minds of some of the American graduates resident in this country, is due to the non-recognition of their diplomas, which leaves them entitled to register only on the ground of having been in practice prior to the passing of the Act, but with no entry of their qualifications appended to their names. The Medical Council under the terms of the Act, was able to recognise the diplomas of those American colleges only, which laid down and exacted a curriculum, roughly speaking, the equivalent of our own; under this restriction, liberally interpreted, only the degrees of the Harvard School and of the Michigan University could be recognised; there having been too brief and too imperfect a course of study and examination, as well as too much laxity in the enforcement of their curriculum, to allow of the others being taken as equivalent to our own degree. It is whispered that if each and all of the American graduates who memorialised the Medical Council upon

this subject had been obliged to give the particulars of their course of study, examination, and, in some cases, the length of their whole sojourn in the United States, the number of signatures would have been reduced materially; but this is only hearsay, and would not have been commented upon here, but that in it lies the gist of the whole matter. So long as colleges break through their declared regulations, and grant degrees in an irregular manner, many who have obtained their own degrees legitimately must suffer; but the grievance is against the college that is bringing disrepute upon the degree, not against any one else who upon this account holds it cheap.

It is further said, "In the minds of the concoctors of the Reform scheme, the legal qualification of a Physician, Surgeon, or Apothecary carries with it, as the greater includes the less, the necessary qualification of a Dentist," &c., &c. Now the "concoctors of the Reform scheme" were most of them the same persons as the initiators of the Dental Hospital and School, and of the L.D.S. degree; had they thought as they are represented to think, they would hardly have incurred the trouble and heavy expense of initiating that former movement, and they would have done so the less, as very many of them already possessed medical qualifications.

The tone of the whole article (which is to be continued) is such that I am quite unable to take notice of anything in it but misrepresented facts; my silence as to its opinions needs no explanation to those who have read the current number of the *Missouri Journal*.

Reflected Neuralgia.

By S. J. HUTCHINSON, L.D.S., M.R.C.S., ENG.

ASSIST.-SURG., DENTAL HOSPITAL OF LONDON.

IN July last year I filled an upper bicuspid for a lady with osteo cement. The tooth had a very large saucer-shaped cavity on its mesial surface, extending also to the palatine side, the cusp here having disappeared.

The cavity was not particularly sensitive, and as it had been present for some time, and was of such a shape that food had not lodged in it, and as there seemed to be a layer of secondary dentine over the pulp, I ventured to fill it at once. Unfortunately (as it proves) I did not put anything between the osteo and the region of the pulp, yet very little pain was caused in the process.

On the 1st of February I received a note from the patient saying that she had been advised by her medical man to have her mouth examined to see if there could be any dental cause for the extreme pain she had suffered in her head. The pain was described as being in the temporal and parietal regions, by the side of the nose, in the eye, but especially near the articulation of the lower jaw, in fact in the region of Meckel's ganglion, but there was *no pain whatever* in any tooth or in the dental region.

The patient said the pain had only been acute for about three weeks, had resisted all treatment, had caused sleepless nights, and came on apparently without reason, usually, however, on changing the temperature by going out of, or indoors, and it was unilateral.

On examining the mouth, I found no fresh decay, no exposed nerves, and no erupting wisdom tooth. The bicuspid I had filled was a trifle loose, but *not* tender on pressure; a lateral, also with a very large stopping, did not give any indication of being the cause of the pain.

The patient stated that in July the bicuspid had ached for two or three days, but after that no pain whatever had been felt *in the tooth*. This fact of pain after stopping led me to decide on removing the white filling. On the last fragment coming away the patient shrieked with pain, and I found a highly inflamed point of exposure of the pulp with visible pulsation; the chief pain, however, was still in the ganglionic region.

The tooth was dressed with light wool and mastic over carbolic acid, and left for a few days, during which time, however, pain was felt; and then I gave the patient the option of having the pulp destroyed, *versus* extraction.

She unhesitatingly decided on the latter, and as the size of the cavity and the violence of the general neuralgia justified this course, I adopted it, and was rewarded by a complete cure of all the reflected pain.

An obvious moral is to be deduced from this case:—to protect the pulp, if nearly exposed, from the direct contact of osteo fillings; and in cases of reflected neuralgia, to be on the look-out for stoppings which may possibly be a cause of nerve-irritation.

On Syphilitic Teeth.

By CHAS. S. TOMES, M.A., F.R.S.

DR. QUINET (*Bullet. de l'Academie royale de Med. de Belgique*, T. xiii., 3rd sér., No. 1, 1879) throws doubt upon the connection traced some twenty years ago by Mr. Jonathan Hutchinson between a particular deformity of the teeth and inherited syphilis. Dr. Quinet somewhat minutely examines Mr. Hutchinson's paper, and succeeds in finding points which are certainly open to criticism, but they are matters which have, some of them, been touched upon by other writers, and the inaccuracies found do not at all invalidate the main proposition.

The objections urged by Dr. Quinet are, principally—

- (i.) That the temporary teeth are not affected, whereas he holds that they ought to be if the evil influence be hereditary.
- (ii.) That the incisors and canines are alone affected, whereas the first molars also ought to be.
- (iii.) That the affections described do not fall in with the stages of development in which the several teeth are at any particular period.
- (iv.) That they have no special character, and do not differ from the result of other casual checks in development.
- (v.) That in the Museum of Alfort is a skull of a cow, the teeth of which would, he thinks, be called syphilitic by Mr. Hutchinson.

(vi.) He gives cases of deformed teeth where no syphilis was traceable.

The first objection is hypothetical; it may be true that the syphilitic virus is at work early, and often leads to miscarriage; but it may none the less be true that it has less power to upset normal development in matters of detail at an early than at a later period.

The second objection is that Mr. Hutchinson has described the incisors and canines as alone affected, while the first permanent molars are really being calcified at the same date, and so ought not to escape. Had such been the case the objection would have been very cogent; but, as a matter of fact, at the time when Mr. Hutchinson's observations were published, comparatively little was known about the development of the teeth, and hence on this ground many flaws may be found in his paper—notably his “circumferential groove” in the canine. But more recent workers in the field have corrected and supplemented his description, and Mr. Moon (Trans. Odonto. Society, May, 1877) has expressly pointed out that the first molar is deformed, and deformed in a way exactly analogous with the incisors and canines, of which more later on.

The third objection has already been alluded to: the “circumferential wear” of the canine is, of course, a blunder; and the stages to which calcification has advanced in the several teeth at the time of birth, were not sufficiently a part of the ordinary knowledge of the day for Mr. Hutchinson to have taken note of them. As a matter of fact, later observers, with these developmental dates in view, have found the lesions to correspond with remarkable exactitude to what might have been expected *a priori*.

The fourth point urged is that other cachexiæ are as likely to deform the teeth as syphilis. Possibly, but granted that cachexiæ can deform teeth, syphilis has been the only known constant factor in the history of children with these peculiar teeth. Mr. Hutchinson long ago chal-

lenged his opponents to produce a single case of "syphilitic teeth" in which there was anything like proof that there had been no syphilitic antecedent, and not one has ever been produced.

Dr. Quinet cites some cases, but his figures, and a careful perusal of his descriptions, lead to the inference that the teeth were not such as we should class as "syphilitic" at all.

And this remark applies emphatically to the case of the cow triumphantly cited by Dr. Quinet as a crushing blow to Mr. Hutchinson's beliefs; the anterior face of the central incisor carries, "*une raie transversale profonde tout à fait horizontale*," situated half way up the crown of the tooth. It would be a very bad business if every one whose children presented one of these familiar checks of development in their incisors were to be convicted of syphilitic taint, but happily the idea of regarding such a lesion as syphilitic has never been entertained.

No author has described the essential nature of the syphilitic deformity so well as Mr. Moon in the paper above referred to, where he speaks of "their peculiar state being due to a stunted development of the first formed portion of dentine—in other words, a dwarfing of the cusps; and that the single central notch on their (the incisors) cutting edge, is due to a greater diminution in the size of the central lobe than in that of the lateral lobes."

Dr. Quinet seems to be unaware that Mr. Hutchinson has abandoned the idea that the effect is produced by the intervention of an attack of stomatitis (see the report of discussion following Mr. Moon's paper), and also seems to be unacquainted with the opinion, now largely accepted, as to the share taken by mercury in the deforming of the enamel, and the formation of craggy, honeycombed teeth.

As Mr. Moon pointed out, in the history of the discussion of this question, there is one notable difference between the advocates of the connection of deformed teeth with syphilis, and their antagonists, namely, the manner of conducting the argument. The former show cases, models of

mouths, and histories carefully recorded, these all tending to the confirmation of their conclusions. To this their antagonists oppose no cases carefully recorded, and no models, but only their own general adverse impressions. Nowhere was this more conspicuous than in a recent attack upon Mr. Hutchinson's views contained in the report of the debate of the Association of Surgeons practising Dental Surgery, where his ideas were warmly contested by many speakers, without anything of importance being put on record.

So far, the case in favour of there being syphilitic teeth is a strong one, but short, as in the nature of things it must almost necessarily be, of absolute proof; while the case against them is no case at all, though this does not of course prove that a better plea against the theory might not be put forth hereafter.

On Contractions of the Mouth.

A paper read before the Surgical Society of Ireland.

By E. D. MAPOTHER, M.D.

PRESIDENT ROYAL COLLEGE OF SURGEONS, IN IRELAND.

DURING the past three months cases of contraction of the jaws and oral aperture have occurred to me which may interest the Society, especially the first, which relates to the branch of surgery lately affiliated with our College.

A lady, age 24, married, and mother of one child, consulted me for closure of the jaws, which had been increasing for eighteen months from March, 1878. Then there had been toothache of the second and third left inferior molars, but no abscess or other inflammatory condition. The central incisors could be only separated for two lines, and any attempt to force them apart caused severe stretching pain. Speech was very imperfect, and for months she had been fed with fluids sucked from the point of a teaspoon. She was therefore weakly because underfed. The left masseter felt through the skin very hard, and its anterior border, examined through the mucous membrane, was extremely rigid. The right muscle was softer, but also in tonic spasm.

As antispasmodics had been fully tried by two leading physicians, and as further closure, to the total exclusion of food, was dreaded, I urged examination during anæsthesia, and the aid of Mr. Baker, F.R.C.S., was procured. When etherisation was complete the jaws could be fully

separated, and the dilators we had ready were not needed. They were of the kind invented by the late Mr. Maunder—a boxwood cone with a spiral groove, just like the Rostellaria shell—and the steel two-bladed one. Mr. Baker extracted the wisdom tooth, which was impacted in the root of the coronoid process and the second molar, which it had displaced and diseased. For a few days there was soreness in moving the jaws. Last week I saw that she could fully enjoy a yawn, and that, having chewed solids, her health greatly improved.

The Americans term this disease *trismus dentium*, and the words *sapientiae inferiorum* may with exactness be added, for it is these teeth alone which excite it. The upper wisdom teeth can make room towards the tuber or antrum, but the coronoid process is less yielding when eruption is hindered by crowding of the teeth owing to want of growth backwards of the ramus. At the age of six years the sacs of the lower wisdom teeth appear, and at twelve calcify in the middle of the coronoid process. It is quite common for them to remain half-erupted, and covered by a flap of gum, which causes much pain in mastication, and leads to caries, as noted in John Hunter's great work on the teeth (1778), which constitutes him the father of dental pathology. Malposition of these teeth has produced pharyngeal and sub-fascial abscesses so severe as to threaten life, and connected nerve symptoms like aphonia and amaurosis. They lie so close to the inferior dental nerve that it has been torn during their extraction. The great size of this nerve, and its close connection with the twigs to the masticatory muscles, explain spasm of them, especially as their antagonists, the muscles which open the mouth are weak and indirect in action.

It is reported that metal stoppings, especially those of both the positive and negative conditions, have excited electrical trismus of the masseter. Allusion was made to other causes of trismus. Dr. G. Johnson relates that a grain of flint lodged for fourteen days in a scar in the cheek caused trismus, and, what seems inexplicable, palsy of the seventh buccal, mainly a sensitive nerve, forms a plexus with the facial; epilepsy in this case had recurred after a lapse of twelve years, but removal of the irritant cured all. Barwell found it unilateral from a temporal wound, and with the peculiarity of relaxation during sleep. The literature of trismus nascentium is so familiar that I will only remark that tetanus, spasm of other muscles, supervenes if the infant lives long enough, and that some of its assigned causes could act through the cutaneous branches of the inferior maxillary division of the fifth nerve. Cold to the face, the only exposed part, chill after very hot baths—causes said to have respectively produced the great Iceland and Vienna epidemics—might be thus regarded. The foul air pent up in the Rotunda Lying-in-Hospital 100 years ago, and the effluvia from filth round Negro babies, would act on the eighth nerve, and pressure of the occipital bone during parturition upon the respiratory nerve-centre, as urged by Marion Sims, would lead to spasm of the muscles of the mouth, pharynx,

and chest. Causation by inflammation about the navel, as assigned by A. Colles, is beyond neurological speculation.

The treatment in my case was simple and effectual, yet by some, gradual separation by means of a wedge, or of Cattlin's rack and pinion separator, is preferred; and the masseter has been subcutaneously divided in one instance, the closure being so extreme that the patient had to put the lips into fluid food and suck up like a pig. In another case the digastric, a weak antagonist, has been excited by galvanic needles stuck into it.

It is rash to point a moral from a single case, but I believe most serious trouble could be avoided by the diagnostic power which a course of lectures on dental pathology would confer on every member of our profession.

MR. BAKER had little to add to the case which had been brought before the Society by the President, and with which his name had been associated. With all deference, however, he must differ with Dr. Mapother as to the cause of the muscular spasm in this case. He did not think it was due to impaction of the wisdom tooth, but to "contiguous irritation."

MR. ROBERT M'DONNELL said he had had recently under his care in Steevens' Hospital a case closely similar to Dr. Mapother's second case. The face had been almost entirely devoured away; and the mouth, which was kept open by a crow's quill, had reduced so that he could barely insert his little finger. In fact, she was able to take food so badly that she was dying for want of nutriment. She had been operated on by dilating the mouth, but resulting in her being rather in a worse position than before. There was no mucous membrane existing on the inside of the lips. He did not think the case was suitable for the operation Dr. Mapother had alluded to, and he contented himself with a very simple proceeding, which turned out very well, and the patient went away greatly improved. He slit the mouth across very widely and put in silver sutures, but they were absolutely of no use. After a few days it was difficult to prevent it from healing. The resident pupil then made silver wire hooks and fastened them with an india-rubber strap behind. However, the patient endured them and went home again very imperfectly cured, but still with a much better mouth than she had when she came to town. The first case was extremely interesting. It recalled a remarkable case of closure of the jaws—that of a gentleman who was wounded in the shoulder in India, the head of the humerus being injured. On his way home by the Cape of Good Hope his jaws began to close, closing gradually and steadily with occasional relaxations sometimes for a few days. The ball had remained lodged about the shoulder joint. In London he consulted Sir William Fergusson; and having been placed under the influence of an anæsthetic, an attempt was made, but without success, to get out the ball. Irritation of the circumflex nerve probably gave rise to the symptoms. Coming to Dublin some time afterwards he was under his (Mr. M'Donnell's) care, and that of the late Mr.

L'Estrange. They succeeded in opening his mouth with dilators, so that he was able to eat solid food carefully minced. Still, no treatment could reduce the irritation, for which they could discover no other cause than the injury mentioned. By a surgeon in London he had been placed under a severe mercurial course, under the supposition that neuritis was the cause. As the result, the anterior part of the alveolus became carious, followed by necrosis of the front of the jaw. However, by this treatment he obtained a sufficiently good opening to eat with. Subsequently he returned to India and died in the course of some years, having never recovered the trismus.

Dr. STACK said the two cases brought forward were of extreme interest both to the general and the special surgeon. The former of the two, that which was concerned with the wisdom tooth, was the one on which he would make one or two remarks: 'The cause' of the stiffness of the jaw in this and similar cases seemed to be either a spasmodic contraction of the masseter muscle or an interference with its power of relaxation, due to an infiltration of the products of inflammation into or around its sheath. In the case in question, the former appeared to have been the condition of the muscle; because, under ether, the tension relaxed, and the jaws were able to be separated rapidly by the gag. If the stiffness of the jaw in any such case were due to the presence of inflammatory products, rapid separation of the jaws either with or without an anæsthetic would be impossible; or, if possible, could only take place after such rending and laceration of the tissues by the forcible distension as would render such an attempt very unadvisable. As regards the wounding of a nerve in operations on the wisdom teeth, it seems to him that the gustatory nerve was in more danger of being wounded in such operation than in the inferior dental.

Mr. STOKES said he himself had performed the operations of Serrè with good results; but he was not aware that the same mode of treatment had ever been adopted before in the class of cases detailed, and it would be particularly interesting hereafter to see whether the result would be as satisfactory as it was at present. In his operation he found while relief was given there was a tendency to recontraction to a certain extent, and Dr. Mapother's would be interesting in enabling him to compare the two classes of cases in the same individual.

Mr. CROLY had met with several cases of abscess connected with the wisdom teeth, to which his attention was first directed by the late Professor Geoghegan, who was in the habit of making incisions, giving instant relief. Within the last few weeks, from a licentiate of that College, he received a letter requesting a visit, as he was suffering from tonsillitis and almost starved. He saw him. Looking into his mouth, disclosing a very peculiar V-shaped palate, he found the tonsils free, and he then pressed over the last wisdom tooth of the left side of lower jaw, and making a free incision, gave him instant relief. About a fortnight afterwards he was attacked with acute inflammation over the

situation of the wisdom tooth, and then he got an attack which he thought was tonsillitis. There was great difficulty in looking into his mouth at all, his teeth were almost locked. In a chink between the teeth matter had formed, which originated in the inflammation in connection with the wisdom teeth. Through that chink he got in a bistoury and made an incision, which gave great relief. Since then he had consulted Mr. Sherlock, who was present.

Mr. SHERLOCK said the patient sent him by Mr. Croly was quite well and could open his jaws sufficiently wide to take solid food, but the tooth was not removed. He thought the irritation was caused by the second molar tooth rather than by the wisdom tooth. However, the patient declined to have either removed as he was quite relieved at present.

The PRESIDENT acknowledged the very important information that had been contributed on the subject, especially by the members of the dental profession, and he at once yielded to Mr. Baker's superior knowledge with regard to the dental pathology. At the same time in the case in question there had been no inflammatory action, nothing like effusion of lymph, round the masseter muscle. It seemed to be as pure a case of reflex spasm of the masseter muscle as could be conceived. The impaction of the third molar in the root of the coronoid process was usually the cause of *trismus dentium*. On looking at the skull of a child, æt. 4½ years, where its first molar lay under the root of the coronoid process, its impaction in that position caused many of the troubles that he had detailed. In the details given by Mr. M'Donnell he was much interested, and he recognised the extreme difficulty there was from the condition of the mucous membrane, and where the two holes had failed. But his own case was particularly trying from the difficulty of examining the oral aperture, owing to the closing of the two nostrils. At each attempt the man got blue in the face, so that he never could make any examination of the mucous membrane. He was much pleased at the suggestion made about the hooks pulling back the new commissure. A good deal of the persistent action depended on the sphincter-like action of the orbicularis oris muscle. With regard to the anatomy of the inferior dental nerve, that nerve was more in the way in the extraction of a wisdom tooth than the gustatory, and more likely to be injured. No tugging force from above would rupture the gustatory nerve. Rupture was recorded by Mr. Salter; it occurred in the person of a German baron. The moment the nerve was ruptured he exclaimed that his jaw was torn away. The inferior dental nerve having been torn, the skin was rendered quite anæsthetic. Mr. Stokes' observations were thoroughly sagacious, and he would promise, if the Society felt interested, to record any further observations in the case. Dr. Lyster, of Athlone, had informed him that the man had a mouth as large as when he left hospital, but he was persistently wearing the tubular dilator. In reference to Mr. Croly's observation, the case

they had been discussing was not one of closure of the jaws through abscess, but was a pure case of spasm of the masseter muscle by reflex irritation of the inferior dental nerve.—*The Medical Press and Circular.*

The Relation of Dentistry to Surgery.

Being the Presidential Address at the Association of Surgeons practising Dental Surgery.

By W. A. N. CATTLIN, F.R.C.S.

GENTLEMEN,—Allow me to express the gratification it affords me to know that, by the good-will of the Fellows of this Association, I have been elected to preside over the only Society of Dentists, composed entirely of educated surgeons, which has been formed in this country. I thank you for this honour, which is greatly increased by the fact that it has not been the custom for learned societies holding their meetings in London, to select a President who resides, as I do, in the provinces. I congratulate the Association on the success of its first dinner. The cordial manner in which our views have been supported by the heads of the medical profession is, to say the least, encouraging. Another point of congratulation is, that a Fellow of this Society, and one practising our special branch of surgery (Mr. Imlach), now holds the office of President of the Royal College of Surgeons of Edinburgh, Mr. Hamilton Cartwright, in an interesting speech delivered by him at our late dinner, drew an analogy between the barber-surgeons and the dentists of an early period, and spoke of them as distinct callings; but I shall endeavour to show that even then surgery and dentistry were one science, and that they were practised together in the time of the poet Gay. In the fable of “The Goat without a Beard,” he says, speaking of the goat :

“Resolv’d to smooth his shaggy face,
He sought the barber of the place.
A flippant monkey, spruce and smart,
Hard by, professt the dapper art.
His pole with pewter basons hung,
Black rotten teeth in order strung,
Rang’d cups, that in the window stood,
Lin’d with red rags, to look like blood,
Did well his threefold trade explain,
Who shav’d, drew teeth, and breath’d a vein.”

Having traced the surgical branch of our profession to a poor relation, I will leave Darwin to determine whether the artificial teeth worn by the ancients might not have been carved by some of our great-great-grand-fathers.

“Man is born to trouble as the sparks fly upwards.” Some of you will sympathise with me when I tell you that, having very little leisure, I had worked hard to prepare an address embracing the modern history of Dental Reform, and had just completed it, when the postman delivered a copy

of the *Transactions of the Odontological Society*, with its President's address in bold print upon the selfsame subject. I was consequently obliged hastily to prepare another, and must ask you to forgive its many faults. Without attributing "malice aforethought," I will refer you to his speech for much which is entertaining both in facts and figures, although I shall venture to differ from him in some of his most cogent arguments. Keeping the same subject in view, and comparing our own branch with the parent tree, I shall endeavour to show you, as we proceed, that both medical and dental science have had their days of darkness, error, and delay; and, indeed, if we may judge from recent discoveries, science in its general sense is only just expanding to the light of modern times. The learned President of the Odontological Society is perfectly satisfied that the "coping stone" has been put upon dental reform; and that education, examination, and legislation, as applied to dentistry, are now "thorough." He also considers that, by the Dentists' Act, dentistry as a profession is for the first time "affiliated to the Royal College of Surgeons and its noble profession." I am naturally tempted to ask how it happens that this promising child, if legitimate, is kept in a home of its own, the *Dentists' Register*, and not admitted into its father's mansion, the medical one. The other night I had a dream (forgive me if I speak figuratively), when more than five thousand dentists thronged around my bed in different costumes. The large majority were busy with their aprons on, screwing down little iron frames, just as the undertaker does his wooden box; others were cooking in new-fashioned style by gas and steam; others, again, were stamping gold and setting teeth upon it, ever and anon puffing and blowing like an engine pipe; a few were dressed as gentlemen, with a small mirror or a forceps in their hands, the latter with a spot of blood upon it; some were polite, and some were not; but *all by law were equal*. Some complained about the dirt and noise the others made, their want of scholarship; and altercation followed altercation, until a fight arose; and, just as happened in the upper heavens, the wiser won, and drove the others out of their community.

"Is this a dream? then waking would be pain:
Oh, do not wake me; let me dream again."

As medical politics still force themselves upon us, it may be amusing as well as instructive to confine our thoughts for a short time to the consideration of the early struggles which hindered the development of some of the Medical Colleges. Should we be driven to found an institution of our own, let us be forewarned that changes of great importance cannot suddenly be made; and, although we live in days of rapid progress, great undertakings will require the fostering hand of time to perfect them. The College of Physicians was at one time a very exclusive body; it is now a hall of courteous gentlemen. From being stiff and unyielding, it has bent as readily to the spirit of the times as any other institution.

One of the greatest obstructions with which the College of Surgeons had to contend, in its early educational department, was the repugnance of the public to be anatomised. So difficult was it even to obtain small portions of the human frame for dissection, that thin bodies with thick heads would probably at that time have been worth most in a moribund condition. It is a little humiliating to be reminded of the time of a body-snatcher named Burke, who, with accomplices, actually suffocated people in the streets, and carried them, when scarcely cold, into the the dissecting-rooms. Parts of the human body were, moreover, hawked in various private surgeries; and the dead were raised from their graves, but not in the living state. So complete has been the success of the Anatomy Act, that every difficulty in this respect has been removed; the public now live and die in peace, and have derived incalculable benefits from the better education of medical students. Indeed, so great has been the change, that the best subjects are now of little value, and perhaps before long a cremation company may be a profitable investment. There was a time, not many years ago, when the first surgeons of the day boasted of their ignorance of medicine; when the most difficult operations were performed with the utmost skill, yet the risk of life was great during the after-treatment. Thanks to the knowledge of medicine possessed by such men as the late Sir Benjamin Brodie and that model of British surgeons Sir James Paget, this blot upon common sense has been removed. From the same cause, it has fallen to my lot to witness much unnecessary suffering, wasted health, and even death, from ignorance in the practice of Dental Surgery. If we go back to the year 1815, when the Apothecaries of England and Wales obtained their Act of Parliament and began to remove the main obstruction to their progress, we shall perhaps find an example in them which we may imitate. At that time, the majority kept open shops, and sold pink saucers, smelling-bottles, brushes, drugs, and chemicals, and were really more vendors of medicines than medical practitioners. According to Shakespeare, they were far from being a wealthy class. Feeling their degraded position (for the physician of that day scarcely condescended to consult with an apothecary), they set to work in right good earnest to improve themselves. The law not being retrospective, the more educated were allowed to continue in practice upon very slender evidence of their skill, until they were extinguished by effluxion of time. The better men, whilst using the powers of their new Act to prevent empirical practice, instituted most creditable examinations, the severity of which was gradually increased until the Apothecaries' license became one of the best, if not the best, test of medical knowledge. The public as well as the medical mind by slow degrees became convinced that medicine in its broad sense included surgery, and hence arose the superior class of general practitioners who now hold the double qualification. As education increased, the custom of charging exclusively for medi-

cines became distasteful; and, to meet a rising want in this respect, the druggists improved themselves, and have become the chief dispensers of medicines. It is, indeed, curious to note how gradually every improvement in the medical profession has taken place, and how certainly every requirement has been supplied. Let us hope that the same good fortune may happen to ourselves. For some time past, the great principle advocated by the London University, of conducting one thorough examination as a test for medicine and surgery, within one portal, has been growing into popularity; and the signs of the times plainly indicate that such a system is about to become the law. Thus far, since the year 1815, the object of the legislature has been, and now is, to consolidate the different classes of medical practitioners and equalise medical education; and it is much to be lamented that the Dentists' Act should have passed just at this crisis, as it is a strange contradiction of the whole scheme.

With these examples before us, let us deliberately consider whether our own history differs materially from them. Like the apothecaries, we cannot boast of a high pedigree; and, like them, our advancement has been slow and gradual; but we have not yet progressed so far. The first grand effort in the shape of progression was made about twenty-four years ago by the formation of the Odontological Society, and it is almost impossible to estimate the amount of good, by example and precept, which that one Society has done. Its last proceedings have, however, I fear, not been in harmony with its former acts. The Dental Hospital, the late College of Dentists, the Dental Licence, and our own Association, have all, in their particular way, contributed to the improvement which is evident and noticeable in our ranks. Show-cases, like the apothecaries' shops, will gradually disappear; advertisements are both less frequent and less vulgar; and I believe the amount of scientific knowledge which Dental Surgeons have contributed to the general stock of literature will bear favourable comparison with any other specialty. All was proceeding well with dentistry, until the Dentists Act in 1878 fell like a withering storm and cut it from the parent tree. Looking earnestly at the present position of medical politics and the wide difference of opinion which prevails among different grades of dental practitioners, I am led to think that the hour of danger has arrived, and that this Association will have an anxious duty to perform during the present session of Parliament. Hasty legislation has led to difficulties of a serious character. The *Dentists' Register* practically separates dentistry from surgery, and in my opinion is an error of the highest magnitude. Its blighting influence will be more apparent as time rolls on. It will scarcely be believed that, if a surgeon (who may or may not be a Dental Licentiate) decline upon principle to register his name in the *Dental Register*, he is, by Sections xix. and xxviii. of the Dentists Act, deprived of the privilege of serving as an examiner upon the Dental Board of his own College, unless he sits,

which is highly improbable, as one of its surgical members. Probably this flaw is an oversight, and will be altered as soon as the mistake is pointed out. Our sub-committee, appointed some time ago, will watch the progress of the Medical Acts' Amendment Bill, and, if possible, prevent the abuse of medical titles. They will again urge the legislature to forbid unqualified persons to use the title of "surgeon," either alone or in conjunction with any other word or words.

Still the question meets us at every turn, What further action ought this Society to take under existing circumstances? Unless some effectual step be quickly taken, Dentists as a body will be isolated, and, I fear, compelled to found a College of their own. In that case, by the constitution of Fellows and Members, some scheme might be arranged for the gradual separation of the surgical from the mechanical branch, thus imitating the old apothecaries by casting off the detrimental "shop." It is to be regretted that, out of 5,289 names which appear in the *Dentists' Register*, only 533 have given positive evidence of either a medical or a dental education. If the Dentists Act be allowed to remain unrepealed, what security is there that practitioners of other branches of surgery will not apply for and obtain a similar statute? If the Dentists Act be repealed—and I heartily trust it may be—to prevent a repetition of the evil, it has been suggested that, when the proposed conjoint examining board is formed, a candidate should notify that, in addition to the ordinary examination of a medical practitioner, he desires to be examined particularly as to his proficiency in dental, aural, orthopædic, or any other branch of surgery; and, if he shall show a thorough knowledge of any such branch of surgery, a certificate to that effect should be appended to his diploma, and he should be allowed to appear in the *Medical Register* as practising that specialty. This certificate would in no way interfere with his practising generally, as, being a fully qualified surgeon, he would be entitled to practise one or every branch. In any and every case, the Dental licentiates should be encouraged to complete their surgical education, and for that purpose great facilities should be given to them during the next three years. They are the cream of the rising generation of dentists—their guiding stars of future hope. If a little learning be a dangerous thing, and if it be true of all professions that he who is only half-educated can only be half-trusted, then the Dental licentiates will be most unwise if they remain in their present anomalous position. Finally, I should like to see established in this great metropolis consulting practitioners, who, ripe with experience and not dim with age, would throw a halo of respectability around the whole profession. If they would arrange to meet their brethren in the surgeries, I believe they would frequently be consulted by them, as well as by members of the medical profession.

During the progress of the Dental Practitioners' Bill, I had an interview with its chief promoter, Mr. Tomes—a name worthily honoured

as a scientific dentist. I hope, 'like myself, he was afflicted with mental colour-blindness, and did not see at that time the mischievous tendencies of this Bill. If otherwise, not even the glory of having received two public testimonials can save his high reputation from the bame of having inflicted a great injury upon some of the best men in his own profession. My amiable rival, the President of the Odontological Society, pointing his remarks straight at this Association, has thrown down the gauntlet of defiance by asserting that "they who had the power to carry the Dentists Act have also the power to maintain it." On behalf of this Association, I reply :

"Thrice is he armed who has his quarrel just,
And he but naked, though locked up in steel,
Whose conscience by injustice is corrupted."

It does not quite accord with my ideas of brotherly fairness to indulge in terms of general complaint without delivering a bill of indictment, and, if possible, suggesting some remedy which might help to heal any one of the sores from which the Fellows of this Association are at present smarting. I will, therefore, in my individual capacity, say candidly what course I think it would be right to take to repel the serious charges which may now be brought against dentists of being the first to sow the seed of discord, and of unnecessarily tearing a useful branch from the glorious old tree of medical science, and that too after its roots had been formed, and just when its branches were about to be trimmed and gathered into harmonious unity by the proposed new scheme of conjoint examination. Those who have done and assisted to do this can best make amends by retracing their steps. I would suggest, as a remedy, that the worst clauses of the Dentists' Act should be repealed, and that only enough of it should remain to authorise the registration of dentists who were in practice prior to August 1st, 1879, and such others as are not yet ripe for medical registration. All qualified practitioners now on the *Dentists' Register* I would carry as fast as I could to the *Medical Register*, and for the future adopt the scheme suggested by my son (Mr. W. Cattlin) for the benefit of all specialists, such as aurists, oculists, dentists, &c. Should any of the "qualified" still desire to remain on the *Dental Register* to die out by effluxion of time with the "unqualified," I would leave them alone in their glory, and keep them warm under the very "coping-stone of reform," of which my friendly rival is so proud, until the dream I mentioned to you has been fully realised. It will, I am sure, be the pride of our Association to help to promote any good object, whether originated by ourselves or not, and especially to hold out the right hand of fellowship to those who, though differing with us in opinion in minor matters, may show a readiness to work with us for the general good.

I thank you for the attentive manner in which you have listened to my remarks, which, on account of urgency, have been confined almost

entirely to the politics of our profession. Even should the civil war which has begun last the whole of the term of my presidency, rest assured that the scientific department of the Society shall not be neglected.
—*British Medical Journal*.

[Our Leading Article on the Dentists Act is sufficient reply to the foregoing address.—ED. *M.R.D.S.*]

Odontological Society of Great Britain.

THE usual monthly meeting of this Society was held at 40, Leicester Square, on Monday, the 1st inst., Mr. Alfred Woodhouse, President, in the chair.

Dr. WALKER related the following interesting case:—A gentleman, aged 30, consulted him, but with evident unwillingness and indifference, stating that his teeth had been examined many times, and had always been found quite sound, and that he had only come because his medical attendant had insisted upon his doing so. On enquiry, Dr. Walker ascertained that twelve months before, the patient had experienced great pain in the left side of the face and head; after a few days this was followed by occasional throbbing and dull heavy pain in the whole of the superior maxillary region; a few weeks later pain in the left ear and in the region of the temporal bone supervened, and after a time a swelling appeared over the mastoid cells, under the sterno-mastoid muscle, resulting in a large abscess, followed by several smaller ones in the same region. Coincidentally with this formation of pus the patient became very weak and out of health. This was succeeded by occasional indistinctness of vision in the left eye, which increased until he lost the sight. He took several months rest, with total cessation of all business, and frequent changes to the seaside, but with no beneficial effect. On examination, the left eyeball was seen to be of different colour to the right; there was no apparent swelling in the region of the superior or inferior maxilla; cicatrices were visible over the mastoid cells, but there was no accumulation of pus. The mucous membrane of

the hard palate was quite healthy, there was slight redness round the margins of the first and second left upper molars; only very slight fulness between the facial muscle and the maxillary bone; no tenderness on pressure. On careful inspection and examination of the teeth all appeared to be perfectly sound, and no discolouration was apparent. On digital examination, with the head firmly grasped, all the teeth were quite firm, except the second left upper molar; there was distinct motion in this tooth, but with no visible elongation. On introducing a hard substance between the teeth, and making the patient close the jaws sharply, the second molar gave no signs of tenderness, but on isolating the second molar with prepared cotton wool placed around all the other teeth, and the injection of iced water with a large syringe, a paroxysm of severe pain was the immediate consequence. On extraction of this tooth an ounce of pus passed into the mouth through the palatine socket. In this case the palatine fang of the second molar had perforated the floor of the antrum. Obscure caries in the posterior proximal surface of this tooth gave rise to the formation of pus which accumulated in the antrum, then passed back through the vidian canal, the hiatus Fallopii and the aqueductus Fallopii to the internal ear, then through the mastoid cells of the temporal bone, piercing the sternomastoid muscle and pointing externally and posteriorly to the lower lobe. Also, by absorbing a portion of the hard palate, the pus probably passed through the posterior palatine canal to the speno-maxillary fossa, and thence through the speno-maxillary fissure into the orbit. He saw the patient several times afterwards; he soon recovered the sight of the left eye, and his health became perfectly restored.

Mr. SEWILL said there was one statement in Dr. Walker's very interesting communication which he was not disposed to accept without further evidence—viz., that the pus did actually travel from the jaw to the petrous portion of the temporal bone by way of the canals which Dr. Walker had enumerated. He thought it much more likely that the

matter had travelled along the surface of the bones externally, burrowing under the muscles and fascia; had the temporal bone been the seat of an abscess he should have expected that there would have been some interference with the function of hearing. So also he thought that the effects on the eye might be more easily explained by supposing that the pus in the antrum had exerted upward pressure on the floor of the orbit; very similar symptoms were met with as the result of pressure in cases of tumour of the antrum. And had pus actually penetrated into the orbit, considerable disorganization of the contents of that cavity must have resulted, and there would not have been such a rapid recovery after the evacuation of the matter. Of course these criticisms did not in the least diminish the interest of the case, nor could they lessen the credit due to Dr. Walker for his very skilful and accurate diagnosis.

Mr. GADDES remarked that the influence of the nervous system in exciting purulent secretion in parts removed from one another must not be lost sight of. It might be that, in this case, the presence of pus in the neighbourhood of the ear had been due to the transmission of a reflex nervous impulse, and not to the actual travelling of matter from the superior maxilla to the temporal bone.

Dr. WALKER said that a detailed reply to Mr. Sewill's criticisms would take up more time than could be spared that evening; but he might state that this was not the first case of the kind which he had met with. On several occasions, patients had been sent to him by ophthalmic surgeons, who had detected the presence of pus in the orbit, and had found it to be due to disease of the teeth or palate. He would, on a future occasion, give particulars of four or five cases in which pus had travelled to considerable distances through the bony canals of the skull, and he thought he should be able to convince Mr. Sewill that what he had supposed to have occurred in this case was neither impossible nor improbable.

Mr. MAGOR showed a left upper wisdom tooth, which had been extracted from the mouth of a lady who had

suffered for some time previously from severe neuralgia of the left side of the head. The tooth, which was carious, was very small and deformed, resembling a supernumerary rather than an ordinary third molar.

Mr. BROWNE MASON, of Exeter, then related the following case:—A young man, whilst running across a wet lawn, slipped, and fell with great force, striking his upper front teeth on the edge of a stone step. On examination, the left central incisor was found to have been driven right up into its alveolus; the right central was loose, and had a portion of its crown broken off; the left lateral, although still in its socket, was so loose as to threaten to fall out on the slightest touch; the right lateral was also loose, and the outer alveolar plate was fractured from canine to canine. Mr. Mason pulled down the left central into line with the other teeth, and then took an impression in wax of the whole upper jaw, taking care not to remove the loose teeth from their sockets. Then, having applied a temporary splint of wax, he proceeded to make one of celluloid which fitted closely to both the lingual and labial surfaces of the incisors and canines, and passed backwards round the last tooth on each side of the jaw. The accident occurred on February 18th, and the case had since progressed very satisfactorily. Of course the patient was still wearing the splint, and would continue to do so until the teeth had become quite firm.

The PRESIDENT then called upon Dr. Lauder Brunton, F.R.S., to read the paper of the evening on "Nervous Diseases Connected with the Teeth."

The pain of toothache localised in a decayed tooth is unfortunately so common that every sufferer diagnoses it for himself, but toothache may be associated with other pains, or may even be replaced by them, and then the diagnosis is by no means so easy. The true cause of the pain may, indeed, remain unsuspected even by competent medical men, and their treatment may consequently be comparatively ineffectual. My attention was first drawn to the connection between decayed teeth and nervous dis-

orders having little or no apparent relation to them by an incident which occurred a good many years ago, when I was a student. A maid-servant had complained for some days of headache in the left temple of a severe neuralgic character, and associated with this was a certain amount of toothache, which was, however, less complained of than the headache. I plugged the offending tooth with cotton wool dipped in melted carbolic acid, but was greatly disappointed to find that it produced little or no apparent benefit. In less than half an hour, however, the girl informed me that the pain in the temple and the toothache were both entirely gone. Their disappearance was not due to the carbolic acid having required time to exert its action, but to its having been applied to a different point. The girl had taken it out of the cavity of the decayed molar into which I put it at first, and transferred it to another tooth, of which she had not complained, and which I had not suspected. Immediately the pain disappeared, both from the tooth and the temple. In this case headache might be looked upon as simply irradiation of the pain from the tooth. But that headaches may occasionally depend upon caries of teeth in which no pain whatever is felt, is, I think, shown by what once happened in my own case. I had been suffering from migraine, the pain being limited to a spot in the left temple. There was tenderness on pressure in one spot below and in front of the parietal eminence. On several occasions I had noticed that the left eyeball was tender on pressure; but one day I was suffering from headache, and yet found that the eyeball was not tender. Nothing abnormal was to be noticed in the lips, cheeks, tongue, or gums; so I tested the teeth by percussion with a blunt steel point, and on the posterior aspect of the last molar on the left side of the lower jaw I found a spot which was very slightly tender. I accordingly went at once to a dentist, and learned that caries had just begun at that spot, but had not caused any cavity whatever. The connection which was here found to exist between temporal headache and a decayed tooth is, I

think, interesting, not only as showing a causal relation between the caries and the headache, but as helping to explain the pathology of migraine.

Professor Du Bois Reymond, who suffered a good deal from migraine, attributed it to spasm of the vessels, for he found that, during the pain, the temporal artery became tense and hard, like a piece of whip-cord, and the pupil of the eye on the affected side dilated as if the sympathetic in the neck had been irritated. Others have discarded this explanation, because they found that the vessels, instead of being firmly contracted, were distended widely, and throbbed violently, and they have attributed the pain in the head to the congestion of the vessels.

These two explanations of the pain of migraine, the one attributing to anæmia, and the other to congestion, are apparently irreconcilable. My own case gives, however, I think, an explanation of the discrepancy. Both statements are correct, and both are incomplete. In my own case, I have found that on some occasions the temporal artery was hard and contracted, like a piece of whip-cord, as described by Du Bois Reymond. On others I found the temporal artery widely dilated and pulsating violently, and yet I could distinguish no difference between the pain I felt on these different occasions. So, not contented with noting the condition of the temporal artery only at its middle, I followed it onwards to its smaller branches, and backwards to the carotid.

Then I found that a constant vascular condition existed during the headache, notwithstanding the apparent differences in the state of the temporal artery. This constant vascular condition consisted in dilatation of the artery at its proximal, and spasmodic contraction at its distal, extremity. The carotid artery was almost invariably dilated and throbbing. Sometimes the dilatation would extend as far as the trunk of the temporal artery, but sometimes the temporal was contracted. Even when the temporal artery was dilated, if only followed to its smaller ramifications they were found to be firmly contracted and cord-like. If

one may reason from this single instance, connecting as it does the examples of vascular dilatation and contraction given by other authors, we may say that the pain of migraine depends neither on contraction nor dilatation of the vessels, *per se*, but upon dilatation of the one part of the vessel with spasmodic contraction of another, or, if we might so term it, upon a state of colic in the vessels themselves. This irregular contraction of the vessel is almost certainly due to disordered vaso motor innervation. The cause of this disorder is to be sought in the sympathetic system, and the observation of Du Bois Reymond regarding the condition of the iris may lead us to connect it with the cervical ganglia. From these ganglia vaso motor fibres proceed along the carotid and its branches, and if we regard disorder of these ganglia as the cause of migraine we are at once in a position to explain some of the symptoms which occasionally accompany it. Thus I have observed that sometimes the pain in the temple would suddenly cease, and be replaced by pain in the occipital region. Sometimes, also, we have affections of the sight, such as general dimness of vision, diplopia and spectra—coloured or uncoloured. The transference of pain from the temple to the occipital region is probably caused by transference of the spasmodic contraction from the temporal to the occipital artery, and the disorders of the sense of sight we may reasonably regard as caused by alterations in the intercranial branches of the carotid, similar to those which we can detect by the finger in the temporal branch. The disturbance in the sympathetic system, which I regard as the cause of migraine, may not always have its origin in the teeth; it may, and very probably does, sometimes originate in the eyes. In my own case, the tooth itself, although the real cause of the sympathetic irritation, did not produce it directly, but indirectly.

The connection between dental caries and neuralgia was first noticed by Neucourt, and he gives rules for diagnosing a causal relation between caries and neuralgia. When the pain, which is at first widespread, gets localised, in the

course of a few days, in the dental region, and is succeeded by redness, swelling, and tenderness or pressure of the gums, the neuralgia is almost certainly of dental origin. In these cases the patients are restless, and the pain is more or less constant, with no distinct intermissions; the pulse is more frequent and hard, and there is not unfrequently sweating. Tenderness on percussion is considered by Richter to be the most certain sign. The diagnosis may be assisted by noticing whether the neuralgia when disappearing lingers longest in one of the teeth. The exact pathology of neuralgia has not yet been settled, but Valleix, one of the great authorities on the subject, gave as its distinctive points the presence of spots which were tender on pressure, and the effect of pressure in increasing the pain. These spots have been noticed by Neucourt in neuralgia depending upon dental irritation, and he has also observed the absence of increased pain on pressure in true neuralgia, so that no distinction can be drawn between neuralgia due to dental irritation and neuralgia depending upon other causes.

Although the most frequent seat of pain due to carious teeth is the temporal region, yet, as one would expect, we find it also in parts of the neck. A few weeks ago I was consulted by a lady regarding her throat. She had pain opposite the upper part of the thyroid cartilage on the right side, and thought that she had inflammation at that point. Laryngoscopic examination showed the larynx to be perfectly healthy, but I found one of the molars on the same side as the painful spot to be extensively diseased. The pain from which she suffered, I have little doubt, was caused by the decayed tooth; but, as she refused to have it extracted or stopped, I could not absolutely verify my diagnosis. I put her upon a course of tonics and the pain almost completely disappeared.

This would be said by some to prove my diagnosis to be wrong; for if the pain depended on the presence of a carious tooth, how could it disappear while the tooth remained unattended to? But we must always remember that the

actions which take place in the animal body are not so simple as those which occur in the test-tube of a chemist. Yet even in the test-tube we require more than one reagent to produce a reaction; and if one of the substances or conditions necessary for the reaction be absent, it does not occur, even though other conditions be present. In the same way we know that a decayed tooth does not always cause toothache, and that toothache, when present, may frequently be removed by the use of a saline purgative. The tooth still remains as a source of irritation, but the state of the nervous system has been so altered by the purgative, that pain is no longer produced by irritation. In the same way we may not unfrequently relieve the neuralgia originating from decayed teeth by a judicious course of aperients and tonics. This is so far advantageous to the patient, as it relieves him from pain; but it is, on the other hand, disadvantageous, inasmuch as it causes the medical man to overlook the real source of the evil, and allows the dental caries to proceed instead of having it arrested by suitable stopping. In the case I have just mentioned, the pain in the larynx, which I attributed to the decayed tooth, did not lead to any change in the nutrition or functions of the larynx. Pointis, however, records a case in which, after severe toothache, the patient suddenly lost his voice, and the aphonia was followed by anorexia, cough, wasting, and feverishness which led to the belief that he was suffering from laryngeal phthisis. On the very day the diseased teeth were extracted, the spasms and other symptoms quickly disappeared.

The irritation caused to the larynx by the process of dentition is well recognised, and has led to the employment of the term teething-cough. The existence of a real casual connection between cough and teething has been doubted; but there are cases on record which seem to show that this really does exist.

From the close connection that exists between the throat and the ear, we would expect deafness to be not unfrequently the consequence of dental irritation. It seems, however, not to be very frequent, although it does exist.

The eye is much more frequently affected than the ear, and blindness is by no means an uncommon result of dental decay. Mr. Jonathan Hutchinson has recorded some cases of this, and he regards the blindness as reflex, and analogous in its causation to essential paralysis of children. The sight is suddenly lost, but there are no cerebral symptoms. The optic nerve is sometimes atrophied, but sometimes not. The blindness is generally preceded for a long time by facial neuralgia, associated with toothache. A more striking case than any of Mr. Hutchinson's is recorded by Dr. De Witt. A perfectly healthy man, aged thirty-one, suddenly noticed in attempting to fire off a gun, that his right eye was completely blind. He had neither pain nor subjective appearances of light in the eye. He was able to distinguish light from darkness with it, but nothing more. No cause for this blindness could be discovered until twelve years afterwards, when it was found that the patient had several teeth stopped two months before his blindness. For a long time afterwards he suffered from pain and tenderness in the first molar of the right side. The gums swelled and ulcerated, and frequent abscesses formed, which he opened with his knife. The stopping was at length removed from the tooth, and this at once relieved the irritation of the gums, and increased the power of sight. In three weeks, however, when the sight had already become considerably better, the gums again ulcerated, and the sight became immediately worse. The decayed tooth was then extracted, and the sight became permanently improved, although it never became quite so good as the other eye.

Magendie divided the inferior maxillary branch of the fifth, and Schiff divided the lingual and inferior dental branches without injury to the opthalmic branches. The dimness of vision produced by these experiments is referred by Schiff to disturbance of the vaso-motor supply to the eye, consequent upon a partial paralysis of the opthalmic branch of the fifth; but as this nerve itself was not injured in the experiment, it is evident that the vascular alterations

are of reflex origin, the irritation having been conveyed from the site of the wound to the nerve centres, and having there exerted such an influence upon them as to induce vascular changes in the eye.

The eye-lid may also be affected reflexly from the teeth. Sometimes dental irritation may cause motor spasm, and at other times paralysis. A year or two ago I had the stump of a bicuspid tooth extracted from the right upper jaw. Almost immediately after the extraction I noticed a constant spasmodic twitching in the right eye-lid, which I was utterly unable to restrain. This lasted all the time the wound in the gum caused by the extraction of the stump was open, but it ceased as soon as the gum had healed, and has never since returned. A case is recorded by Gaine in which a carious tooth of the upper jaw had caused an abscess in the antrum. The right upper lid was paralysed, the pupil dilated, and there was no reaction. The optic nerve was pale and the eye blind. On extraction of the tooth and puncture of the antrum the paralysis of the lid disappeared, although the eye did not regain sight.

Spasmodic contraction of the masseters is another consequence of dental irritation. A few weeks ago a gentleman, over forty years of age, called upon me and told me that he was much concerned about a spasmodic affection of the jaw from which he was suffering. He was, in fact, afraid of lock-jaw. It seemed evident that this affection must depend either upon congestion of the cerebral centre for the movement of the jaw, which Ferrier locates at the lower end of the fissure of Rolando, or on reflex irritation from the mouth itself. The latter seemed to be much the more probable, and I accordingly requested him to see a dentist. The source of irritation was discovered to be a wisdom tooth, which was just making its way through the gum, but in a somewhat oblique direction, so that its crown was pressed against that of the molar in front of it.

Sometimes paralysis occurs of a more extensive character, in consequence of dental irritation, especially in

children. Teething is recognised by Romberg and Henoch as a frequent case of paralysis in children. According to Fliess, paralysis of this sort occurs more commonly during the period of second dentition, whereas convulsions generally occur during the first. Its onset is sudden. The child is apparently in good health, but at night it sleeps restlessly, and is a little feverish. Next morning the arm, or more rarely the leg, is paralysed. The arm drops; it is warm but swollen, and of a reddish blue colour. It is quite immovable, but the child suffers little or no pain. Not unfrequently paralysis is preceded by choreic movements. Sometimes recovery is rapid, but at other times the limb atrophies, and the paralysis may become associated with symptoms indicating more extensive disturbance of the spinal cord and brain. It is only in very rare instances that we are able to gain any insight into the pathological anatomy of such cases, because they rarely prove fatal; and even when they do so, the secondary changes are generally so considerable as to leave one in doubt as to the exact mode of commencement. This renders all the more valuable the case recorded by Fliess, in which a boy five years old, and apparently quite healthy, found his left arm completely paralysed on awaking one morning after a restless night. The same day he fell from a waggon upon his head, and died in a few hours. Apart from the fracture of the skull, which caused his death, the anatomical appearances which were found were congestion of the spinal cord near the point of origin of the brachial nerves; the meninges were here much reddened and congested; the veins were much fuller than on the corresponding right side. There was no organic change perceptible, either in the spinal cord or in the brachial nerves. On the other hand, the turgescence of the veins extended from the shoulder and neck up to the face, and was very striking in the sub-maxillary region.

This vascular congestion seems to point to vaso-motor disturbance of a somewhat similar kind to that which we have already noticed in connection with occipital headache,

or with migraine accompanied by subjective appearances of either form or colour.

According to Russell Reynolds, the second dentition is also a cause of epilepsy, and he has observed that those who are affected by it have often suffered from convulsions during the first dentition. A case is recorded by Albrecht of a boy, aged twelve, who suffered daily for twelve months from general convulsions, which began in the temporal region and extended to the external auditory meatus. There was no decay in this instance, but the teeth were large, and the last molar on the right side had its crown jammed into the ascending ramus of the jaw. As soon as it was extracted the pain ceased, and the convulsions did not return. Another case is given by Mr. Castle of a young man, aged nineteen, who had complained for four years of headache and pain in the eyes, stiff-neck, swelling, and numbness of the right arm. For the latter two years he suffered from general convulsions, which came on every two or three days, ending with vomiting, and often succeeded by partial deafness. All treatment was useless, and setons and blisters to the neck did no good. Nearly all the teeth were decayed; nine were extracted, and the fits entirely disappeared.

Affections of the intestinal track depending on dental irritation are of very considerable importance indeed.

In adults many a case of dyspepsia is due to defective teeth, partly, it may be, from reflex affection of the nerves, both secretory and motor, of the stomach and intestines, but partly also, without doubt, from the imperfect mastication of the food, which is swallowed without being broken up on account of the pain or inconvenience which the act of mastication causes. In this way two evils are occasioned. First of all, the shortened sojourn of the food in the mouth allows no time for the secretion of saliva, and the starchy constituents of the food are imperfectly digested; moreover, deficiency of saliva also lessens the normal stimulus to the secretion of the gastric juice. But, secondly, imperfect mastication has a mechanical

action in preventing perfect digestion, for the food, being swallowed in lumps, is not permeated by the digestive fluids, and thus cannot be dissolved in anything like the same period of time as it would otherwise be.

The diarrhoea which occurs in children is probably produced through the gastric and intestinal branches of the vagus, and other branches of this nerve may be affected reflexly from the teeth.

The close connexion between the roots of the fifth nerve, and those of the vagus, can be demonstrated anatomically, and it is probably in consequence of this that irritation of the fifth is able to exert such a powerful influence upon the circulation. Some time ago, in a paper which I published in the *British Medical Journal*, I mentioned that the cause of death during the extraction of teeth under chloroform was probably the stoppage of the heart's action through the inhibitory fibres of the vagus, associated with a reflex depression of tone in the blood-vessels. The reason why the extraction of a tooth in a person who is not under the influence of an anæsthetic, is followed by no ill effects, is probably this: that in him the irritation of the fifth nerve produces two distinct actions which counterbalance each other. It may cause reflex stoppage of the heart through the vagus; but at the same time it causes reflex contraction of the vessels through the vaso motor centre. This contraction of the vessels maintains the pressure in the arterial system during the stoppage of the heart, and thus no harm whatever is done. When an anæsthetic is used, however, one of these pieces of nervous mechanism may be paralysed by it, while the other is not, and thus the extraction of the tooth may stop the heart without causing contraction of the vessels. The blood pressure will then sink very rapidly in the arterial system, and fatal syncope may be produced. If, however, the anæsthetic be pushed to a greater extent, so that both parts of the nervous mechanism just mentioned are paralysed, the vessels are not contracted, neither is the heart stopped. The operation is therefore comparatively free

from danger when no anæsthetic has been given, or when the anæsthesia is perfectly complete, the period of danger being that of imperfect anæsthesia.

We have now seen how affections of sensation, of motion, and of nutrition may all be dependent upon dental irritation, but even the cerebral faculties themselves may also suffer from a similar cause. One or two very interesting cases of this sort are recorded by Dr. Savage in the *Practitioner* for June, 1876. One of these was that of a farmer, aged twenty-two, with a strong family tendency to insanity. In May, 1875, he suddenly took to riding madly about the country without his coat and waistcoat. From May until November he was exceedingly noisy, destructive, untidy, almost constantly excited, and if for a day or two he was exhausted, he was sullen and more dangerous. In the middle of November he complained of very severe toothache, that caused him to be sleepless. He bore this for two or three days, after which the stump was removed. There was suppuration at the root of the fang. From the time that the stump was extracted, the patient steadily improved, and by the middle of December was quite well.

The PRESIDENT thought it was a matter for congratulation that medical men now paid more attention to local irritation as a cause of neuralgia than they had done formerly. He had met with many cases in which the patient might have been spared much suffering, if the facts to which Dr. Brunton had called attention had been more generally recognized. He might mention one case, that of a gentleman whose health had been quite broken by severe and long continued neuralgia. When he came to Mr. Woodhouse he was miserably thin and weak, and was reduced to a diet of brandy and milk; one of the upper canines was carious and the pulp exposed, though the patient had never suffered any pain in it. Mr. Woodhouse destroyed the pulp and filled the tooth; the patient had no pain afterwards, and soon regained his health. He hoped that Dr. Brunton's paper would again attract the notice of the profession to this important subject.

Mr. CHARLES TOMES said he had been surprised to hear Dr. Brunton state, on the authority of Professor Schiff, that irritation of the branch of the fifth nerve which supplied the teeth would affect the sight of the eye on the same side. He should be glad if Dr. Brunton would inform him on what animals the experiments were tried, and how the impairment of vision was tested. The correctness of this observation was of some practical importance since the inferior dental nerve was sometimes divided as a last resource in cases of obstinate neuralgia, but if there was any danger of "dimness of vision" resulting, of course the operation must be abandoned. He had himself performed the operation a good many times, but had never known any such effect to be produced. Then with regard to the pathology of migraine. Dr. Brunton had advocated the view that the pain was due to spasmodic contraction of the vessels. In that case it should be relieved by amyl nitrite; but this did not invariably relieve it, even when it was given to the extent of producing extreme vascular relaxation. The inhalation of ether, again, produced general vascular relaxation, evidenced by flushed face and full bounding pulse, yet he had on one occasion observed an attack of neuralgia whilst the patient was fully under the influence of ether. This was in the case of a man who suffered from very severe paroxysmal attacks of neuralgia along the course of the inferior dental nerve; these were always accompanied by spasmodic twitching of the lips. Mr. Tomes cut down upon the nerve and divided it, and during the operation, whilst the patient was fully under the influence of ether, the peculiar twitching occurred, which indicated an attack of neuralgia. Lastly, Dr. Brunton had quoted some German authority, who asserted that the spasm of the masseter which sometimes occurred about the time of the eruption of the wisdom teeth, was due to laceration of the attachment of the muscle by the tooth. But if the tooth was erupted in its proper place, it was far away from the attachment of the masseter; and if it happened to be directed outwards, the

external plate was so exceedingly strong and hard that the crown of the tooth was always diverted inwards. He thought, therefore, that the generally received opinion that this spasm was of reflex origin was probably the correct one.

Mr. SEWILL thought that the Society was to be congratulated on the fact that it would have in its *Transactions* the best account which had yet been published of the connection of the teeth with nervous disorders. Dr. Brunton had collected from various sources some remarkable cases of serious derangement of the nervous system resulting from dental irritation, but he had himself been greatly impressed by the extreme rarity of such cases in practice. Some nervous diseases, such as epilepsy, might be aggravated by dental irritation, but as the direct result of this he had met with nothing more serious than neuralgia and spasm of the masseter. He had not even met with a case of distant neuralgia, which could be assigned to this cause—the pain was always confined to the head and face. These remarks of course referred only to adults; in infancy grave nervous disorders no doubt did occur not unfrequently from this cause, but dentists did not usually see much of this class of cases.

Mr. COLEMAN said he was surprised to hear that Mr. Sewill had never met with cases of nervous disorder due to disease of the teeth. He himself had published some years ago in the *Lancet* some very clear cases, and he had seen many since. Quite recently a little girl who had become subject to fits was brought to him; he removed some bad teeth and the fits entirely disappeared. The late Mr. Holmes Coote had stated to him that the most frequent cause of talipes equinus was nervous irritation set up by teething. If Dr. Brunton had not brought forward any new discoveries, he had certainly given a more scientific explanation of the pathology of these cases than had yet, so far as he knew, been attempted.

Mr. GADDES said he had met with a case which showed clearly the effect of dental irritation in aggravating nerv-

ous disease. A girl, aged 17, came to him at the National Dental Hospital; she had been subject to epileptic fits for two years, and, when she came to him, was having, on an average, two a week; there was no family history of epilepsy. Some of the bicuspidis were much broken down by caries, and had decomposing pulps; she had also broken her upper central incisors in one of the fits, and the pulps of these were exposed and suppurating. As the girl had some pretensions to good looks, which would have been materially affected by the extraction of the teeth, and as the wearing of a plate by an epileptic was dangerous, he did not remove the teeth, but cleared out and filled the pulp canals. The result of this treatment was that during the next three months the girl had but one fit; showing that there was an evident connexion between the state of the mouth and the fits.

Dr. WALKER said he had seen many instances of the serious effects of dental irritation in young children, especially on those who were weakly or had inherited a scorbutic taint. He would especially instance one family, the members of which had for years past been under his observation. The first three children died during the period of the first dentition; after this orders were given that the others should be taken to the dentist as soon as they were six months old, and afterwards whenever there was anything the matter with them. These regulations had been scrupulously carried out, and since then seven children had been successfully reared. He never lanced the gums deeply, but scarified them freely with a sharp point; and on several occasions the good effects of this treatment had been most marked. On one occasion the father, going to his country house on Saturday, noticed that one of the children squinted: the child was brought to Dr. Walker on Monday, the squint still persisting; the gums were scarified, and next day the squint disappeared. Another child lost the use of one leg for three days, and was immediately cured in the same way. A little girl was brought to him about nine years ago; she had been for

some time subject to epileptic fits, her general health was very bad and her teeth much decayed. She remained under his care for fifteen months, and as the mouth was brought into better order the fits gradually disappeared, and she had since turned out a very clever girl.

Mr. F. CANTON asked Dr. Brunton whether he thought that paralysis of an arm or a leg could occur in an adult as the result of dental irritation? He had met with a case in which pain due to caries in a lower molar had been accompanied by spasm of the muscles of the arm and leg of the same side followed by partial paralysis. As the patient was an anæmic young lady, and the effect seemed disproportionate to the supposed cause, he had set it down as due to hysteria; but he strongly impressed upon the patient the idea that the tooth was the cause of the paralysis, and that this would be at once cured by its extraction. This result did follow, but in what way it had been brought about he was not at all certain.

After some observations by Mr. J. S. Turner and Mr. Dennant,

Mr. HUTCHINSON wished to ask Dr. Brunton three questions:—(1) Had he any experience of the value of tincture of Hamamelis as a local application for neuralgia? (2) He had said that chloroform if given in small quantity had a depressing effect on the action of the heart, but that in larger doses this effect was counterbalanced by contraction of the small arteries—how did nitrous oxide gas differ from chloroform in this respect? (3) Could he explain how it was that a purgative would cure neuralgia set up by dental irritation?

Dr. BRUNTON in reply said that as the time at his disposal was very short, he could only deal briefly with the most important of the questions which had been put to him. He could not then reply to Mr. Tomes' first question, for he had been unable to obtain a copy of Prof. Schiff's paper. Mr. Tomes doubted his explanation of the cause of the pain in migraine, because it was not relieved by nitrite of amyl, although it produced relaxation of the

vessels. But the fact was that the nitrite did not uniformly dilate; it could not dilate a vessel which was contracted by the irritation of a vaso-motor nerve. In answer to Mr. Canton he would say that dental irritation might certainly cause paralysis in an adult as well as in a child. The brain centre which presided over the movements of the hand and that which governed the mouth, were so closely connected that excessive stimulation of one centre might easily derange the functions of the other. With regard to Mr. Hutchinson's questions, he had never used the tincture of Hamamelis virginica for dental purposes. As to the action of chloroform on the heart; the nerve from the tooth would act upon the vagus centre and upon the vaso-motor centre in the brain. The vagus centre being irritated would tend to weaken, or even to stop, the heart's action. But the vaso-motor centre being irritated would cause contraction of the arterioles, and thus no fall of blood pressure would occur. But when chloroform was administered, its first effect (when given in small quantity) was to paralyze the vaso-motor centre; the action of the vagus being thus left unopposed, cessation of the heart's action might occur without the simultaneous contraction of the arterioles. There would then be an immediate rapid fall of blood pressure, and fatal syncope might result. Nitrous oxide gas was opposed to chloroform, in that it acted as a strong stimulus to the vaso-motor centre, and this might partly account for the greater safety which had been found to attend its use. Mr. Hutchinson's third question was one which it would be impossible to answer briefly. It opened up a very complex and difficult subject, and he would not therefore attempt it.

The meeting then terminated.

Odonto-Chirurgical Society.

AT the ordinary monthly meeting of this Society, held on the 12th February, WALTER CAMPBELL, Esq., in the chair, a discussion took place on the subject of Irregularities of the Teeth.

The President suggested that the irregularities should be grouped into classes :—

1. Upper incisors locked inside the lower ones.
2. Upper incisors, &c., projecting beyond their normal position.
3. Obliquely placed teeth, and the more complicated cases.

He added, that fifteen or twenty years ago, he would more readily have taken in hand a complicated case of irregularity of the teeth than now. From experience in such cases, he was more inclined to exaggerate than underrate the loss or damage which the teeth may sustain consequent upon wearing mechanical appliances for a long time. Nature can do a great deal if space be given her, and teeth are inclined to take their normal places if these be not preoccupied.

Mr. J. A. GORDON (Inverness), presented to the Museum two cases of cemental union of molar teeth. In both instances the gemmination was detected only at the time of their extraction.

Mr. WILSON exhibited the cast of a case of double hare-lip in a youth 18 years old. The case presented the following peculiarities :—

In each maxillary bone, between the permanent canine and the intermaxillary fissure, there was a tooth having all the appearance of a normally formed lateral incisor; the central and ordinary lateral incisors being present in the intermaxillary bone.

The temporary canines were retained and lodged between the canine and bicuspid. The central incisors and canines were honey-combed, but the four lateral incisors were not. The patient was operated upon by Dr. Joseph Bell, and that gentleman removed the projecting intermaxillary bone with the four teeth contained in it.

The Society adjourned till the 13th inst.

The Thirteenth Annual Meeting of the Society, was held on Saturday the 13th inst., Walter Campbell, L.D.S.Eng., Dundee, presiding.

The Treasurer's and Secretary's reports were of an exceedingly gratifying nature, showing that the income and membership were steadily increasing and keeping pace with the increased facilities for professional intercourse and culture, which the possession of a fixed habitation enables the Council to provide for its members.

The office bearers for the ensuing year are :—

President—Walter Campbell, L.D.S.Eng. *Vice-Presidents*—Charles Matthew, L.D.S.Edin.; G. Ranking Brownlie, L.D.S.Eng., Glasgow. *Treasurer*—Andrew Wilson, L.D.S. Edin. *Secretary*—W. Bowman Macleod, L.D.S.Edin. *Curator and Librarian*—G. W. Watson, L.D.S.Edin. *Council*—David Hepburn, L.D.S.Eng.; Alexander Cormack, L.D.S. Eng.; W. R. Chisholm, L.D.S., L.R.C.P. and S.Edin.; L. G. Platt, L.D.S.Edin., Stirling.

The formation of a library and establishment of a reading room where the members might meet on stated days and discuss the Dental, Medical, and Scientific news of the month was unanimously agreed to, and it was remitted to the Council to arrange.

Mr. Robert Hepburn, L.D.S.Eng., of London, was unanimously elected an honorary member, as a slight mark of the appreciation of the many favours which, from its birth to the present day, he has conferred upon the Society.

An interesting paper on a few points in Comparative Dental Anatomy was read by Mr. George Leslie, Demonstrator of Zoology in the University of Edinburgh. [Closeness of our day of issue to this meeting, and pressure of matter, prevent us giving the paper in our present number.]

Mr. Macleod then read a communication on "Some of the properties of Plaster of Paris," in which he drew the attention of the Society to the irregular expansion of plaster; its warping under these circumstances giving an inaccurate *model* and a consequent ill-fitting plate, which misfit is often attributed to an imperfect impression, or to the warping of the case plate. Of this warping of the model he gave several conclusive illustrations, and

then pointed out that in using potash alum in the proportion of three or four ounces to the gallon of water with which the plaster was mixed—according to its quality—a “dead setting” plaster was obtained, and a true and reliable model was the result. By using potash-alum-water for the matrix as well as the model in gum block work he obtained close fitting joints.

Mr. MACLEOD stated that nitrous oxide and ethylene dichloride in combination, produced excellent anæsthetic effects, and gave the history of 19 cases, in which it had been used by himself with completely satisfactory results. He invited the experimental attention of members to this new combination, and suggested that the experience gained during the recess, might form the subject of discussion at the opening meeting of next Session.

THE DINNER.

In the evening the Members of the Society and Licentiates dined together in the Balmoral Hotel. Mr. W. Williamson, L.D.S., Aberdeen, occupied the chair, and Mr. Walter Campbell, L.D.S., Dundee, was croupier. Amongst others present as guests of the Society were Mr. F. B. Imlach, P.R.C.S.Ed., J. Smith, M.D., Joseph Bell, M.D., Andrew Wood, M.D., Mr. Lindsay Mackersy, W.S.

After the usual loyal toasts had been duly honoured,

The CHAIRMAN proposed the toast of the “Dental Diploma,” and said it must ever hold the first place in their estimation, and precede all the other professional ones. It is just twenty years since the agitation for Dental Reform, which had been carried on by the supporters of a Dental College and the Odontological Society for four or five years previously, culminated triumphantly in the granting of the Dental Diploma by the Royal College of Surgeons of England. The more sanguine supporters of the movement may have been disappointed by the comparatively small number of eligible practitioners who came forward to obtain it at first, and the slow increase of the

students' roll in its early days; but the leaven of professional progress was introduced by that act, and a spirit of energy and determination to attain to higher aims evolved, which led to farther advances in the same honourable path. They now have the pleasure of welcoming the "Dentists' Act," the consummation of the ardent hopes and wishes of all those who had so long and so nobly fought the battle of progress against the *vis inertia* of the great mass of the profession. He believed that by the action of the British Dental Association, the heterogeneous list of Dentists will be purged as far as it is legally possible to do so. They should ever keep in view the fact that all additions to the professional body henceforward must have passed through a properly qualifying curriculum and obtained a diploma, so that in another quarter of a century the number of unqualified practitioners will be but a handful in comparison with the great body of the profession. Another good effect is the establishment of Dental Boards by the Colleges in Edinburgh and Glasgow, and the granting of Dental Diplomas by these Boards. In conclusion, he begged to say that they now have all the necessary levers which education and law can give for the elevation of the profession, and to these let each and all endeavour to add the lustre which every calling is capable of receiving from the integrity and honourable conduct, as well as the skill, of its individual members.

Dr. ANDREW WOOD, of the Medical Council, proposed "Prosperity to the Odonto-Chirurgical Society." It had been to him a source of the greatest comfort and happiness that, at last, the Dental Profession was being put upon its proper foundation.

The CHAIRMAN replying, said, in the name of the Dental Licentiates and the Odonto-Chirurgical Society, he had much pleasure in heartily welcoming Mr. Imlach, President of the Royal College of Surgeons, and the Members of the Dental Board who graced them by their presence.

Mr. CAMPBELL, Dundee, proposed "The Odontological and other Sister Societies," and remarked that so many

of the scattered Members of the profession uniting together in Societies, is a sign of health and vigour. It is now twenty four years since the Odontological Society was formed, since then it has done a great amount of good work. There is not an English speaking Dentist worthy of the name, but must have derived much useful knowledge from the Society. He would also say, that the great Dentist consulting public have been saved an amount of suffering not easily over-estimated by this noble, though not yet Royal, Society. The other Sister Societies are the Association of Surgeons practising Dental Surgery, the Western Counties, the Midland Counties, the Glasgow, and the Dublin Societies; and last, but by no means least, the British Dental Association with its Monthly Journal given gratis to Members.

Dr. JOHN SMITH, in proposing "The Dental Hospital and School," said he regarded the institution as the very life-centre and back bone of any dental curriculum. If it had not arrived at the full state of a perfect dental school, they should remember it was still in its infancy; but it had made such progress as to justify them in anticipating that it would yet reward its promoters for all the time and trouble they had expended in its behalf.

Mr. HEPBURN proposed the "Licensing Bodies," and said the toast had a wide significance, but he would apply it particularly to the Royal College of Surgeons of Edinburgh, some of whose representatives were their guests that evening. To the Royal College of Surgeons of England they were also specially and deeply indebted, that body being the first to lend a helping hand, and the weight of its powerful influence to those movements and measures which had resulted in raising their profession to the honourable position it now held. The wisdom of the course adopted had been evidenced by the fact of its adoption by the legislature, and by licensing bodies in Scotland and Ireland. These national institutions must command a tribute of respect from all who could appreciate whatever was venerable, whatever

was great, whatever was good and noble. They had sent forth, and continue to send forth, an army of educated and cultured men to battle against disease and death, and that battle was fought faithfully. Nor was it alone in their strife with disease in its various forms that these men had earned for themselves honour, but in the fields of literature, science, and art, they had not only won laurels for themselves, but a world-wide fame for the institutions and the country to which they belonged. He expressed a hope that the members of the Dental profession recently affiliated by these bodies would strive to emulate a like reputation.

Mr. F. IMLACH, in reply said, that their branch of the profession in Edinburgh had now attained a recognised position through the great exertions and talents of a gentleman present, whom he certainly, in this assembly, did not require to name, for the work he had done in bringing into form the necessary scheme for education and examination was well-known to them. He next referred to the healthy rivalry between the various schools throughout the country, which, he said, would have the effect of turning out the best class of practitioners, and increase the opportunities for scientific and practical study in the shape of museums and mechanical schools, besides adding to the number of lectureships in the profession.

Mr W. BOWMAN MACLEOD, in proposing "The Licensing Board of the Royal College of Surgeons, Edinburgh," said that as one who had lately passed in review this dreaded tribunal, he had great pleasure in having this opportunity of revealing some of the awful secrets which were supposed to be enshrined within the hallowed precincts of an examiner's room. Those who had undergone an ordeal of that kind were more disposed to look more lightly on the same than those who had the prospect of doing so. He, with others around that table, had experienced both sides of the question, and felt very happy at this moment, whatever they might have done prior to their examination. Like all objects

which were viewed through the spectacles of fear, the Examining Board appeared to be a huge monster, whose sole object and existence seemed to be to pluck the feathers from, and then at their leisure devour the innocent, confiding, and unsophisticated aspirants for professional honour, who ventured within the range of their capacious mind. Now, however, looking through the spectacles of experience, he could say that never was there a more unfounded calumny foisted upon such an honest, fatherly, help-the-fellows-through-if-you-can, genial set of gentlemen, than those composing the Dental Examining Board of Edinburgh.

Dr. BELL, in reply, said that his experience of the Dental candidates who came before the examiners, had been of an extremely pleasant and remarkably fortunate kind. Some of the examinations passed by gentlemen who had been since qualified as lecturers of their School, had been of an admirable description.

Amongst the remaining toasts were "The Medical Council," "The Chairman," and "The Croupier."

The proceedings of the evening were enlivened by some excellent songs and recitations. The dinner was numerously attended, and most successful.

Obituary.

THE intelligence of the sudden and unexpected termination of the career of Samuel Stockton White, D.D.S., who died at Paris, December 30, 1879, of congestion of the brain, in the fifty-eighth year of his age, and who seemed but a few days ago to be in the fulness of his strength, will be received with a sorrow equal to the sad surprise.

About the middle of November he had a slight congestion of the brain, from which he recovered quickly, but which was accepted by his physicians as an indication that he must at once seek a long-needed rest. In company with his son and daughter, and attended by his nephew, a physician, he sailed for Europe on November 19. He

seemed to be rapidly gaining health and strength, until a little before Christmas a second attack of congestion occurred, to which he succumbed on the 30th of December. His remains were forwarded to his home. At the age of fourteen, he was indentured to his uncle, Samuel W. Stockton, of Philadelphia, whose manufacture of mineral teeth was the first in the United States to attain any commercial importance, to learn "the art and mystery of dentistry and the manufacture of incorruptible teeth."

On attaining his majority he commenced the practice of dentistry in his uncle's office, and at the same time superintended his manufacturing department. In the following year (1844) he began the manufacture of teeth on his own account, in the garret of a dwelling-house at Seventh and Race Streets, uniting with it the practice of dentistry in an office in the same building. This was the initiatory step in an enterprise which has since grown to be the largest of its kind in the world.

In the field of dental literature, the publication of the *Dental News Letter* for twelve years, commencing in 1847, and, following it, of the DENTAL COSMOS, now in its twenty-second volume, has had no small share in the growth of the profession in usefulness, self-respect, and public regard.

He was a patriotic and public-spirited man,—the first in America to respond to the call of the government for a loan in its early struggles with the rebellion. He was a humanitarian and a liberal helper in philanthropic efforts, disbursing continuously for many years with an unstinting hand in aid of charitable objects. He was a worker in the great Sanitary Fair, and one of those who subscribed five thousand dollars each towards the Centennial Exhibition. He was a member of the Union League, of the Reform Club, the Franklin Institute, the Academy of Natural Sciences, the American Association for the Advancement of Science, the United States Board of Trade, and many other business and benevolent associations.

As a man he was modest and unassuming, charitable and respectful to others, yet never forgetful of self-respect ;

courteous, cordial and simple in his manners, uniting dignity and urbanity. Few men are to be found more free from faults, and none of greater probity or purer designs and aspirations; calm in danger, cool under difficulties, wise in council, a kind husband, an indulgent father, thoughtful and considerate as an employer, a steadfast friend, a diligent worker, a man whose word was as good as his bond.
—*Abstract from Dental Cosmos.*

Tomes and Turner Testimonial Fund.

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Bensted, C. S., Waltham N. Town	0	5	0	Cocker, A., Ripponden	0	10	6
Betts, E. G., London ...	1	1	0	Cockings, S., Louth ...	0	10	6
Bever, H. A., Oxford...	1	1	0	Coleman, A., London...	5	5	0
Bindemann, L. F., Worcester, S. Africa	0	10	6	Coles, O., ditto	1	1	0
Birt, S., Brighton	2	2	0	Coles & Balkwill, Plymouth	2	2	0
				Connacher, D. J. London	1	1	0
				Corke, H. C., Dalston...	0	10	6
				Cormack, A., Edinburgh	1	1	0

Cormack, D., London...	£2	2	0	Gaddes, T., London ...	£1	1	0
Cotton, J., Oswestry ...	1	1	0	Garland, T. G. S., Heavi-			
Cox, E., Preston	0	5	0	tree	0	10	6
Crabtree, E., Accrington	1	0	0	Gartley, J. A., London.	2	2	0
Crappier, J. T., Hanley	1	1	0	Geekie, W., Oxford ...	0	10	6
Cronin, A., London ...	2	2	0	Gibbings, A., London..	1	1	0
Crowther, G. H., Wake-				Gibbons, T. C., Brighton	1	1	0
field	1	1	0	Gilbert, W. J., London.	1	1	0
Cunningham, J. T.,				Gillies, D., Derry	1	1	0
Edinburgh	2	2	0	Gingell, G., London ...	0	10	6
				Goddard & Hepburn,			
Daish, W. H., Ryde,				Nottingham	2	2	0
Isle of Wight	1	1	0	Goepel, J. R., Liverpool	1	1	0
Daish, W. H. jun., Ryde,				Graham & Wood, Stock-			
Isle of Wight	0	10	6	ton-on-Tees	2	2	0
Dally, F., Wolverhamp-				Grant, J. D., Jersey ...	1	1	0
ton	1	1	0	Grant, J. G., London...	1	1	0
Danks, G. F., London...	1	1	0	Grayson, E. Kendal ...	1	1	0
Danks, J. A., ditto	1	1	0	Greenfield, J., London ..	1	1	0
Davis, M., ditto	1	1	0	Greenwood, E., Halifax	0	10	6
Davis, W. C., Bristol ...	1	1	0	Gregson, G., London ...	1	1	0
Dean, F. S., Paris	1	1	0	Grünbaum, H., London	1	1	0
Dennant, J. D., Brighton	2	2	0				
Didsbury, J. M., Paris .	0	8	0	Hall, A., Launceston,			
Dobbs, F., London	2	2	0	Tasmania	1	1	0
Donovan, F., ditto	1	1	0	Halliday, M. W., London	1	1	0
Drabble, J. E., Sheffield	1	1	0	Hammond, G., ditto ...	1	1	0
Drabble, R. C. H. & L.				Hankowski, F., ditto ...	2	2	0
H., Sheffield	1	1	0	Hardie, J., Alloa	1	0	0
				Hardie, W. J., Montrose	1	0	0
Fairbank, J., London...	1	1	0	Harding, G. H., London	1	1	0
Farebrother, H. L., Tun-				Harding, T. H. & M., ditto	6	6	0
bridge Wells	1	1	0	Harding, W. E., Shrews-			
Feltham, R. D., Jersey.	1	1	0	bury	1	1	0
Fergie, W. M., Edin-				Hargreaves, J. J., Man-			
burgh	2	2	0	chester	0	2	6
Finlayson, M., Leith ...	0	10	6	Harrison, R., London...	1	1	0
Fisher, W., Dundee ...	1	1	0	Hatfield, J. H., ditto ...	1	1	0
Fletcher, J. B., London	5	5	0	Hay, W., Norwich	1	1	0
Fletcher, T., Warring-				Heath, T. W., Richmond	1	1	0
ton	2	2	0	Hedgeland, J. H., Exeter	1	1	0
Foran, J. C., Eastbourne	1	1	0	Hele, W., Carlisle	2	2	0
Forsyth, W. F., London	5	5	0	Helfrich, R., London ...	1	1	0
Forty, J., ditto	1	1	0	Helyar, H., Haverford-			
Foster, J. A. Birmingham	2	2	0	west	1	1	0
Fothergill, A. Darlington	1	1	0	Henry, G., Hastings ...	2	2	0
Fothergill, E. Newcastle-				Henry, H. C., London ..	1	1	0
on-Tyne	1	1	0	Henry, W. F., ditto ...	1	1	0
Fothergill, J. A., Dar-				Hepburn, D., Edinburgh	2	2	0
lington	0	10	6	Hepburn, D., London...	1	1	0
Fothergill, W., ditto ...	1	1	0	Hepburn, D. D. Finchley	1	1	0
Fox, G. J., London	1	1	0	Hepburn, R., London...	2	2	0
Frost, G., Pendleton ...	1	1	0	Hiam, C., Northampton	1	1	0
				Hill, A., London	5	5	0

Hill, H., ditto	£0	10	6	McAdam, G. C., Here-			
Hinds, J., Coventry ...	2	2	0	ford	£2	2	0
Hockley, A. G., London	2	2	0	Macgregor, A., London	1	1	0
Hogue, J. W., Bourne-			0	Macgregor, M., Edin-			
mouth	1	1	0	burgh	2	2	0
Holland, J., London ...	1	1	0	Mackenzie, F. V., London	1	1	0
Hoole, S., ditto	2	2	0	McLeod, W. B., Edin-			
Hopkinson, R., Salford.	1	1	6	burgh	5	5	0
Horrocks, J., Bolton ...	0	10	0	Maggs, F. C., Yeovil ...	1	1	0
Huet, F. A., Manchester	1	1	0	Magor, M., Penzance ...	1	1	0
Hugo, S. G., Guernsey .	0	10		Mahonie, T., Sheffield...	3	3	0
Hunt, W., Yeovil	1	1	0	Maitland, L., London...	1	1	0
Hutchinson, B. T., Cape				Mallan, G. P., ditto ...	1	1	0
Town	0	10	6	Mallet, G., Newbury ...	1	1	0
Hutchinson, S. J. London	1	1	0	Manton, J. N., Wake-			
				field	2	2	0
Ibbetson, G. A., ditto...	5	5	0	Margetson, W., Dews-			
Iliffe, J., Melbourne ...	1	1	0	bury	2	2	0
Imrie, W., Paris	5	5	0	Martin, G., Bradford ...	1	0	0
Inder, G. J., London ...	0	10	6	Martin, J. H., Ports-			
				mouth	1	1	0
Jackson, B. S., jun.,				Mason, J. T. B., Exeter	5	5	0
Penrith	1	1	0	Matheson, L., Manchester	1	1	0
Jackson, T. S., Hastings	1	1	0	Matthews, A. M., Brad-			
Jenkin, S., Malta	1	1	0	ford	1	1	0
Jepson, A., Leamington	1	1	0	Matthews, C., Edin-			
Jones, W. G., Eccleshill	0	5	0	burgh	2	2	0
Jordan, H. W., London	2	2	0	Maw, R., Devonport ..	0	10	6
				Medwin, A. G., London	2	2	0
Karran, J., Douglas, Isle				Melrose, E., Bolton ...	2	2	0
of Man	2	2	0	Merryweather, Dr., Shef-			
Keeling, G. R., Epsom	1	1	0	field	2	2	0
Kelly, T. M., & Sons				Moon, H., London	4	4	0
Manchester	2	2	0	Moore, W. V., Plymouth	1	1	0
King, C., New Cross ...	1	1	0	Morison, J. C., Glasgow	1	1	0
King, E. H., Godalming	1	1	0	Mosley, H., Derby	2	2	0
King, R., Shrewsbury...	1	1	0	Mortimer, F. C., Portsea	0	10	6
King, T. E., York	1	1	0	Mosely, A., Newcastle..	1	1	0
Kirby, H. T., Leicester	1	1	0	Moseley, G., Sheffield...	1	1	0
Kohler, C. H., Cape				Mummery, J. H., Lon-			
Town	0	10	6	don	2	2	0
Kyan, J. H., Preston ...	1	1	0	Mummery, J. R., ditto	6	6	0
				Murphy, J. E. & O. B.,			
Levason, A., Hereford..	1	1	0	Derby	2	2	0
Lindsay, J. B., Dover...	1	1	0	Murphy, T., Bolton ...	1	1	0
Lloyd, F. R., Agra,							
India	1	1	0	Newman, W. J., Liver-			
Lloyd, J. W., Liverpool	2	2	0	pool	2	2	0
Longford, J. H., Dub-				Nicol, W. H., Leeds ...	1	1	0
lin	1	1	0	Nightingale, C. G.,			
Longhurst, S. & B.,				Shrewsbury	1	1	0
London	5	5	0	Nolan, W. H., London	0	10	0
Lyddon, G., Reading ...	1	1	0	Northover & Ebbetts,			
				London	1	1	0

O'Donoghue, J., Monte Video	£1	1	0	Rothwell, J., Southport	£0	10	6
O'Duffy, J., Dublin ...	2	2	0	Ryding, F., Dublin.....	1	1	0
Offord, J. S., Norwich	1	1	0	Ryland, R. F., Queens-			
O'Meara, A., Simla, India.....	5	5	0	town, C. Good Hope	1	1	0
O'Neill, T. G., New-				Rymer, S. L., Croydon	5	5	0
castle-on-Tyne.....	0	10	6	Samuel, P. W., Stock-			
Orphoot, P., Edinburgh	3	3	0	ton-on-Tees.....	1	1	0
Owen, R., Wolver-				Saunders, E., London...	10	10	0
hampton	1	1	0	Scales, H. F., Kendal ...	1	1	0
Palmer, J. E., Peter-				Scott, J. W., London...	1	1	0
borough	5	5	0	Sewill, H., ditto	5	5	0
Palmer, T. G., Chelten-				Sexton, T., ditto	1	1	0
ham	2	2	0	Sheffield, J., ditto	5	5	0
Parkinson, G., Bath ...	5	5	0	Sims, C., Birmingham	1	1	0
Parkinson, Jas., London	5	5	0	Simmonds, J. J., London	1	1	0
Parsons, T. C., Clifton	2	2	0	Smale, C. G., ditto	0	10	6
Partridge, H. F., London	1	1	0	Smith, A., Clifton	0	10	0
Paterson, A., Glasgow	0	5	0	Smith, E. S., Baston ...	1	1	0
Payne, G. W., London	1	1	0	Smith, J., Edinburgh...	1	1	0
Peacock, C. J., Scarboro'	2	2	0	Smith, J. A., London...	2	2	0
Pearman, G. B., Torquay	0	10	6	Smyth, A., Glasgow ...	1	1	0
Pearson, W. H., London	0	10	6	Spencer, H. L., London	1	1	0
Pedley, G., London ...	1	1	0	Stacy, E., Brussels	1	1	0
Pellow, W. T., South-				Steele, J., Croydon	5	5	0
ampton	1	1	0	Stewart, J., Perth	1	1	0
Petty, F., Reading	3	3	0	Stewart, R. E., Liverpool	2	2	0
Pillin, L. B., London ...	2	2	0	Stocken, J., London ...	5	5	0
Pitowski, A., Barnstaple	1	0	0	Street, G. H., Richmond	1	1	0
Powndall, W. L., Bigh-				Strickland, F., London	1	1	0
ton.....	1	1	0	Stroud, Dr. J. W., Port			
Powell, D., Newcastle-				Elizabeth, S. Africa...	2	2	0
on-Tyne	1	1	0	Students (Present and			
Read, H. B., London ...	1	1	0	some of Past) at Den-			
Read, T., ditto.....	1	1	0	tal Hospital of Lon-			
Read, W., Brighton ...	1	1	0	don, by Mr. Magor...	5	12	0
Reboul, A., London ...	1	1	0	Students at Glasgow, by			
Reid, R., Edinburgh ...	1	1	0	Mr. Brownlie	11	8	0
Rhodes, T., Keighley ...	0	10	6	Summers, J. R., London	1	1	0
Richardson, T., Derby	1	1	0	Surenne, J. G., Edinboro'	1	1	0
Ritson, J. L., Penge ...	1	1	0	Sutcliffe, J., Bradford	2	2	0
Roberts, C. D., London	1	1	0	Theet, M. A. N., Ply-			
Roberts, T., ditto	1	1	0	mouth, New Zealand	2	2	0
Robertson, A., Hereford	1	1	0	Tindall, C., Ipswich ...	0	10	6
Rogers, C., London ...	2	2	0	Tippett, J. C., Torquay	1	1	0
Rogers, H., ditto.....	10	10	0	Tod, E. M., Brighton...	2	2	0
Rogers, R., Cheltenham	1	1	0	Townend, J., Bradford	1	1	0
Rogers, T. A., London	10	10	0	Torpey, G., London ...	1	1	0
Rogers & Kissack, Man-				Tripper, T., Liverpool	1	0	6
chester	3	3	0	Underwood, A., London	1	1	0
Rose, T., Liverpool.....	2	2	0	Underwood, T., ditto ...	1	1	0
				Underwood, T. F. K. ditto	1	1	0

Van, E., Jersey	£1	1	0	Williams, C., Leaming-	ton	£1	1	0	
Vanderpant, F. J., King-	ston	2	2	0	Williams, E., & Sons,	Croydon	1	1	0
Varley, R., Watford ...	1	1	0	Willis, W. F., London	1	1	0		
Vasey, C., London	1	1	0	Wilson, A., Edinburgh	1	1	0		
Waite, W. H., Liverpool	1	1	0	Wilson, H. C., Napier,	New Zealand	1	1	0	
Walker, J., London ...	5	5	0	Wilson, W., Sheffield...	1	1	0		
Waller, C. J., Blackheath	0	10	6	Wood, J., Brighton ...	1	1	0		
Waller, R., Cairo... ..	2	2	0	Wood, J., Dumfries ...	1	1	0		
Wallis, G., London.....	1	1	0	Wood, W. R., Brighton	2	2	0		
Wardell, W., Luton ...	1	1	0	Wood, W. R., jun., ditto	2	2	0		
Washbourn, N. Taunton	1	1	0	Woodburn, W. S, Glas-	gow	2	2	0	
Watson, D., Torquay...	1	1	0	Woodhouse, A. J., Lon-	don	10	10	0	
Watson, G. W. Edinboro'	1	1	0	Woodhouse, H., ditto...	5	5	0		
Weaver, G., London ...	1	1	0	Woodhouse, R. H., ditto	1	1	0		
Weiss, F., & Son, ditto	1	11	6	Woodruff, W. H., Lea-	mington	1	1	0	
Wells, J., Berwick-on-	Tweed	2	2	0	Woods, W. S., Calcutta	3	3	0	
West, C., London	1	1	0	Wormald, D. A., Bury	1	1	0		
West, E. B., ditto	2	2	0	Wormald, S., Stockport	1	1	0		
Westlake, B., Windsor	2	2	0	Wright, T., London ...	1	1	0		
Whatford, J. H., East-	bourne	2	2	0	Young, J. C., Warrington	1	1	0	
White, H., Lincoln.....	1	1	0						
White, J. G., Glasgow	1	1	0						
White, R. Norwich ...	2	2	0						
Wilkinson, J., Preston	1	1	0						

The form of the Testimonial to Messrs Tomes and Turner having been decided upon, the same will be presented to those gentlemen at a meeting of subscribers as soon as arrangements are completed. Due notice of the event will be given.

ALFRED HILL,
Hon. Secretary.

Annotations.

DAVIS' MERCURY HOLDER.

Mr. Davis of Bristol, has patented a black wood Mercury Dropper, in order to better insure purchasers obtaining that dealer's Mercury, purified by electricity, which is now sold in the patent wooden dropped bottles.

FOX TESTIMONIAL.

Just before going to press we have received an appeal on behalf of the Editor of *The British Journal of Dental Science*, which is doubtless already in the hands of most of our readers, and will, we trust, commend itself to their favourable consideration. Although compelled on some occasions to dissent from the views entertained by the Editor, and unable to approve the tone or to sympathise with the style of some communica-

tions which of late have found admission into the pages of the journal, yet we willingly bear testimony to its general usefulness as a literary organ of the profession. Repeated attacks of illness during the past year have led some of his numerous friends to make the appeal to which we wish to draw attention, and which, we may add, has our own sincere good wishes; as an earnest of which we beg to announce our willingness to promote the good work by receiving any contributions which may be confided to our care.

ABSCESSSES OF THE CORNEA TREATED BY HOT STEAM.

In a clinical lecture delivered at Glasgow, by J. R. Wolfe, M.D., F.R.C.S.E., upon injuries of the eye, a case was recounted, the successful treatment of which might we think suggest a possible line of practise in alveolar abscesses of an asthenic type. A girl of 17 had her eye injured by a beard of barley on November 1st., and was first seen by Dr. Wolfe on November 25th. She had multiple abscesses of the cornea, giving it somewhat the appearance of punctative keratitis. The whole cornea was opaque, and the iris invisible; but the worst feature about the case was the absence of any cyclitis or reaction in the neighbouring parts; the inflammation seemed to be asthenic in its character. Pus exuded as it were from interrupted points throughout the whole substance; and it was the occurrence of these interrupted points which enabled Dr. Wolfe to pronounce the case not altogether hopeless. There was constriction at the ciliary border, and he determined to make a limited sclerotomy. He introduced a narrow lance to evacuate the aqueous humour, but very little issued. The course of treatment upon which he then determined was the direct application of hot steam to the eyeball; and under this it began to recover. The first appearance of improvement was the formation of blood vessels proceeding from the periphery to the cornea proper, first at the inner segment, and then extending over the whole of the corneal circumference. Now after two months daily use of the vapour the cornea cleared up, and vision became nearly normal, and it was only by oblique illumination that it was possible to see the deep cicatrices of the cornea, showing the narrow escape the eye had had. The instrument for fumigation is made by Collin, Rue de l'École de Médecine. The hot steam may act by washing out the part, and assisting the disentanglement of the spiculæ; while at the same time it produces reaction in the neighbouring parts, thus favouring the formation of new blood-vessels to regenerate the lost tissue. Surely this simple remedy of hot steam might be tried in obstinate and protracted cases of alveolar abscesses, where the inflammation is low and asthenic, and where a gentle stimulant is required by the blood vessels to induce them to absorb the effused products. The experiment is certainly worth a trial.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

BEING

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. II.

APRIL, 1880.

VOL. I.

Then and Now.

To those who, in a calm and candid spirit (and we trust there are many such among our readers) seek to arrive at a true estimate of the Dentists' Act, it will be necessary simply to remember the wholly unguarded state in which the profession was formerly left, to be convinced of the immense value of registration. It was this which, in our opinion, was necessary to complete the good work of 1858-9, and which alone could give value and efficiency to what was then accomplished. Until this was obtained it was in vain to attempt to raise the status of the profession by even the most faultless and appropriate curriculum, or by any well meant efforts in an ethical direction. For without an authoritative register the door was left open and unguarded for the entrance therein of any adventurer, who, without possessing a single qualification, and attracted solely by an exaggerated idea of its emoluments, should endeavour to pass muster in the ranks of the profession, presuming on the credulity or want of discrimination on the part of the public. For such a state of things which had been allowed to exist too long, and which had been deplored as a blot and reproach by all honest and reputable members of the profession, the sole and efficient remedy was felt to be an authentic register. To meet fully the exigencies of the case, however, it was inevitable

that it should be a special register; for the number of those practitioners of Dental Surgery who were in a position to claim a place on the general register of the Medical Council, was and is so small as to render it practically of no effect. Nor does it seem very probable—several conspicuous instances to the contrary notwithstanding—that the number of Dental practitioners possessing a Surgical Diploma, in addition to the L.D.S., will be largely increased in the immediate future. For, as was well expressed by Professor Erichsen in his excellent address at the last distribution of prizes of the London School of Dental Surgery, it will come to be recognised that the knowledge which is acquired solely for the purposes of examination, and which is not likely to be called into requisition in the daily routine of practice in after life, is usually barren, of little value and easily and quickly forgotten. And it cannot be denied, however attractive to some minds may be the formula—a surgeon first and specialist afterwards,—and however strong may be the conviction that all knowledge is good, that much time and thought are demanded of those who would obtain the Diploma of General Surgery, which would be more usefully employed in acquiring dexterity of manipulation and practical experience in our own speciality. But inasmuch as in either case the Diploma is derived under similar conditions, varied only by the exigencies of the speciality, from the same great institutions, there need be no feeling of severance, much less of inferiority. For it will not be disputed that the curriculum in either case is of equal educational value, in so far as it fulfils the conditions for which it was created, guaranteeing on the authority of a properly constituted Examining Board the fitness of the candidate for the duties he proposes to undertake. And it will hardly be contended by the most extreme partisan that the ordinary

Board of Examiners of the Royal College of Surgeons possesses either the knowledge or the desire to guarantee the competence of a practitioner of Dental Surgery. Such a trust can only be, as it is, discharged by a mixed body of gentlemen composed half of Examiners of the College and half of experts in the speciality.

In those pre-licentiate days, the Then of which we are speaking, when as yet there existed no such mixed tribunal, the only course open to the Student who should desire to distinguish himself from the unqualified and the uneducated was to obtain the Diploma for general surgery. But this proceeding, though laudable in itself, as being the best course under untoward circumstances, could not be regarded as of much real value, inasmuch as the Anatomy and Diseases of the Teeth were practically ignored as subjects for examination; and the Diploma of the College could thus only afford evidence of general culture and medical knowledge. Far be it from us to say one word which might be construed as a discouragement to those who still have the ambition to possess themselves of a Medical or Surgical Diploma, would that all were so minded; but what we contend for is that the L.D.S. is a more direct and trustworthy test of competency, and may be regarded as rendering a Surgical Diploma at least less necessary than formerly for those who propose to devote themselves to the practice of Dental Surgery. For the speciality of Dental Surgery is so well defined and so strongly marked off from general surgery, which deals with soft and more highly organised structures, in which the drill, the mallet and the forceps are replaced by the suture, the splint and the knife, that the two can never be successfully practised together. No one would think of confiding the treatment of an exposed dental nerve to the most accomplished sur

geon, neither would a dental practitioner be asked to reduce a hernia or to crush a calculus. And it would doubtless soon be found that if any of those of our own body who lay, as we think, undue stress on their surgical status were to attempt, which they have not done, to perform operations which their diploma would warrant them in undertaking, but which, hitherto, by a sort of tacit understanding have been confided to the operating surgeon, they would be regarded as infringing a recognised rule of practice. The old maxim, *ne sutor ultra crepidam*, has a wide conventional application, and is no longer restricted to the relations between medicine and surgery, but is equally applicable to the large and increasing number of specialities, opthalmic, obstetric, dental, orthopædic, &c., which are the natural outcome of an advanced state of civilization and of modern intellectual vigour.

But while we contend for the insufficiency of the surgical qualification, as regards Dental Surgery, we are very far from sympathising with those who hold that an acquaintance with the principles of surgery and kindred sciences is of no value as preparation for the practice of the speciality. On the contrary, so far as it goes, we believe it be the soundest and best possible ground work, provided only that it be not regarded as all-sufficient, and that what requires to be super-added, be not overlooked or forgotten.

An instance somewhat analogous may be seen in the relation of the sculptor to the painter in the Royal Academy of Arts; and it would be as irrational to say that the painter, if he be so minded, is not better fitted to become a sculptor, by virtue of his previous training, than a man who is wholly uninstructed in art and not a genius, as to maintain that a surgeon would not, *ceteris paribus*, make a better dentist than one who can show no credentials as to his

acquaintance with surgery. Up to a certain point the lines of study of the painter and of the sculptor run parallel; the contour and due proportion of the human figure—the anatomy of form and the anatomy of expression—the muscles in action and at rest, and the emotions and passions as reflected in attitude or in play of feature. But here the divergence begins; and while the painter produces his effects on a flat surface by colour and the skilful use of shadow and perspective, the sculptor has to deal with marble or with plastic clay, and to embody his thought in relief or in solid form. In order to do this successfully he must superadd to the knowledge which he has in common with his brother artist, the technical skill necessary to infuse life into the inert mass with which he has to deal. In both cases the previous training and the knowledge thus gained, though not sufficient to make an accomplished artist, are of no small subsidiary value. Seeing, then, the inadequacy of the Diploma for general surgery as a test of fitness for the speciality of dental practice, and that but a small proportion of even the respectable members of the profession had cared to possess themselves of it, the problem began seriously to occupy the minds of those who desired to take a broad view of the situation how to devise a comprehensive scheme which should embrace, not only the qualified but the whole body of the profession. And this brings us to the Now, of which we may have more to say on a future occasion. By the Register, which came into force last August, the door of entrance into the Profession is for the future forever closed to all but those who shall have given satisfactory proof of their fitness to practise it with benefit to the public and credit to themselves, and to the body to which they desire to belong. In the inception of so radical a change in a profession hitherto left open and entirely

unguarded, it was inevitable that there should be more or less that is undesirable; nor was it surprising that before the door could be closed, there should be an ugly rush. Nevertheless with these drawbacks, which are not wholly without remedy, there stands the fact that the door is now closed, and the dawn of a day of better things is to be discerned in the near future, if not in the immediate Now.

Dental Histology.

A PAPER of considerable interest to the student of Dental Histology, was published by Mm. Legros and Magitot in the *Journal de l'anatomie et de la physiol.* de M. Ch. Robin last year (1879). It is a continuation of a former communication upon the origin and formation of the dental follicle, of which a free paraphrase has been lately published by Dr. Dean of Chicago.

The authors describe the dental tissues and their development in some detail; and their views, differing in many respects from those of any other observers, are of such importance as to call for a full notice here.

They enumerate as parts of the dental follicle—

1. The follicular wall.
2. *A special cement organ* (in the case only of those teeth furnished with thick coronal cement).
3. The enamel organ.
4. The dentine bulb or pulp.

It will be noticed that they stand alone in making mention of a specialised cement organ.

1. *The follicular wall* is described in some detail as a delicate translucid membrane (not laminated), consisting of embryonic elements, fusiform bodies, &c., imbedded in an amorphous substance, but becoming more tough and fibrous at later stages of development. It is richly vascular, its vessels being derived from the arteries entering the dental pulp, though anastomosis takes place at its

summit (region of the "gubernaculum") with capillaries of the gum. Its vessels throw out abundant branches inwards, which form a regular plexus on the outside of the enamel organ.

2. The cement organ. This is peculiar to those creatures which have coronal cement, such as the herbivora, and is absent in man and carnivora, in whom coronal cement is rudimentary. Beneath the follicle wall and outside the enamel organ lies, at the stage of first formation of a rudiment of the crown of a calf's tooth, a soft greyish layer, extending down to the base of the dentine bulb, which it covers like a cap; it is semi-transparent and milky looking, of firmer consistence than an enamel organ, richly vascular; it is some tenths of a millimetre thick, so that it is visible to the naked eye.

As the coronal cement is not formed till after the enamel and dentine, the cement organ remains long in this stage, in which it is an embryonic organ built up of fusiform cells forming a kind of fibrous layer.

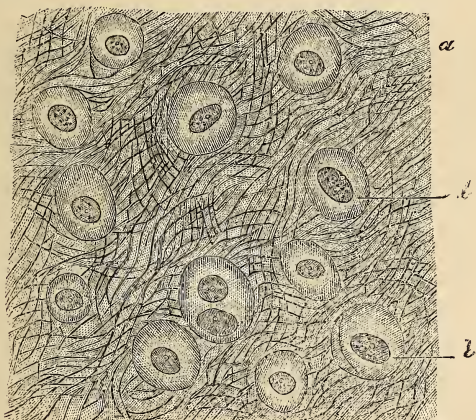


FIG. 1

Later on it becomes cartilaginous; fresh elements are recognisable in it, namely, the cavities containing one or more cartilaginous cells, chondroplasts. The cells contain spherical nuclei of sharply defined contour.

There would hence appear to be a sharply defined difference between the method of ossification of coronal and of radical cementum—the former being a calcification in a cartilage, the latter taking place like other membrane ossifications without any cartilaginous structures being formed,—the details of calcification are, however, reserved for a future communication.

3. The enamel organ is a cap which exactly fits the contour of the dentine pulp, but there is no adherence between the two. It is absolutely without vessels and without nerves.

It is at first, all epithelial; its central portion becomes transformed into stellate reticulum, and its general consistence becomes gelatinous; and next this central portion disappears, and its outer and inner parts come together—this happens as soon as enamel begins to be formed. The outer layer (external epithelium) of the enamel organ is brought into intimate relation with the vessels of the follicle wall by prolongations into it. After minutely describing the enamel cells (internal epithelium), without in other respects establishing any difference of structure from that laid down by other authors, they go on to describe the enamel-forming, working end of each cell as being sharply terminated by a dense plate. They believe that there is a process of exosmosis going on through these plates, and that the constituents of the enamel have to traverse them to get to the dentine on which they are to be deposited. They point out that these plates are not destroyed by reagents which destroy the rest of the cells, and that they often cohere by their sides into a sheet, thus forming the so-called *membrana preformativa*. English readers will recognise these plates (“plateaux”) as old acquaintances, though they will probably interpret their functions quite differently.

4. The dentine pulp or bulb is at first composed of embryonic elements in a basis substance which is amorphous, but very tough; it is easily made granular by reagents or even by water. There is a hyaline border to a fresh pulp

due to the amorphous basis substance projecting, so to speak, beyond the cell elements, and this may be so torn and folded as to present the fallacious appearance of being a membrane; no membrane, however, exists in this situation.

Odontoblasts are said to originate in this layer, and to develop a filament at each extremity; or rather several at their deeper ends, and one towards the dentine that is to be. They have no special walls, but are homogenous masses, and their prolongations are of the same composition as the cells; they alter rapidly after death, and are much affected by all reagents. Beneath comes a layer of star-shaped branched cells anastomosing freely with the free ends of the odontoblasts. As to the distribution of the nerves of the pulp, the authors advance a view of much novelty. They describe the nerves as entering the tooth in two or three bundles, &c., and *finally becoming continuous with the star-shaped cells subjacent to the odontoblasts*. This stratum of cells they regard as nerve cells, an expansion of the nerves entering the pulp, and serving as intermediate elements between the nerves proper and the odontoblasts.

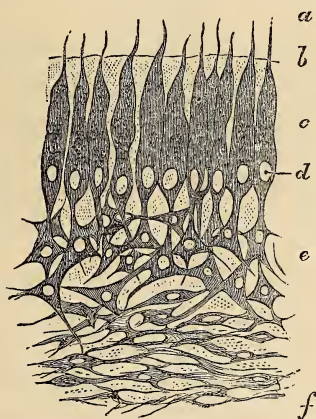


FIG. 2

These results they have obtained by the study of pulps prepared in osmic acid and stained with chloride of gold, and they express themselves as unable to confirm Boll's

observations on the termination of the nerves of the pulp, which have hitherto passed unchallenged.

Our authors would therefore explain the sensibility of dentine as actually due to the processes of the odontoblasts, which are themselves connected by the medium of the star-shaped cells with the nerves.

They further note the occurrence of amorphous calcospherites in the pulp during early stages of calcification, and of occasional deposits of Hæmatoidin.

To sum up, the chief new points advocated in these pages, which well merit being read in extenso, are:—(i.) The existence of a specialised cement organ for the manufacture of coronal cement. (ii.) The existence of dense plates upon the working ends of the enamel cells, necessitating the adoption of a transudation theory of enamel formation. (iii.) The direct connection of the nerves of the pulp, with the stratum intermedium of the dentine pulp, and through this with the odontoblasts.

C. S. T.

Neuralgia.

By ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.Eng.

NEURALGIA being a subject of especial concern to our profession, it may not be uninteresting to glance at a few of the results of recent investigations in this direction. Published cases and experiments become all the more valuable by being placed side by side and considered by each other's reflected light.

What Neuralgia is we do not at present know. There is no point about which all authorities agree so completely as in their confessions of ignorance as to the precise nature of the minute changes in the nerves that are essential to the production of the familiar phenomena. The pathological anatomy of Neuralgia is undiscovered. The changes are beyond the reach of our finest microscopes, they baffle our most ingenious means of investigation. Touching the causation of Neuralgia, therefore, it is necessary to wait for further information.

All that can be ventured at present is that whenever any anatomical changes have been observed they have been simply those of inflammation, swelling, hyperæmia, inflammatory exudation and thickening of the neurilemma, dilatation and tortuosity of the arteries and veins, and sometimes adhesions between the nerves and the surrounding tissue. Anstie considers that these changes are only accidental. Erb suggests that they are simply the results of excessive neuritis, which neuritis is always present in a greater or less degree, but in most cases is too slight and too transient to be perceived. This is only advanced as a hypothesis, however.

The kind of pain that signifies the presence of Neuralgia is too familiar to everyone. Dr. Erb lays great stress upon the fact that it is not an exaggeration of the normal function of a sensory nerve, not extra-acute feeling-power, or hyperæstheria. *It intermits while the irritation that causes it is continuously present, and even persists when the irritating cause is gone*, therein differing conspicuously from the result of an ordinary excitation of the sensory nerves. Accompanying this pain are certain circulatory phenomena of two apparently contradictory kinds, namely, vascular tension, and relaxation, for the first time clearly reconciled and accounted for, I think, by Dr. Lauder Brunton, as a kind of vascular colic.—(*Odontological Society Reports*, March, 1880). The vascular phenomena have led certain surgeons to tie the carotid for obstinate facial Neuralgia (Trousseau, Nuerbaum), an operation still on its trial, but recommended for consideration by Erb as having produced some very striking results.

Neuralgia depends, no doubt, always upon some irritation, and when the irritation can be removed in time, that is, before the changes in the nerve are too extensive to subside, no doubt the Neuralgia will disappear. But the irritating cause often baffles discovery (or the effects last after the cause is gone). Such causes have been called "idiopathic," because the cause having escaped observation it has been supposed there was none. What-

ever may be hereafter fixed upon as the cause, the *symptom* Neuralgia is itself amenable to treatment. It has yielded to external applications, to drugs, and to various operations; but before touching upon these I must say a word about prophylactic measures. Half the Neuralgia we meet with might never occur if children were brought up upon more healthy principles, and were more robust and less precocious. Anyone who takes the trouble to read the forcible remarks on this head made by Anstie (*Neuralgia and its Counterfeits*), and Erb (*Ziemeren's Cyclop.*), will be convinced that it is to the mischievous precocity of girls and boys of the present day that a great part of the nervous disturbances of adult life is due. The slightly veiled pruriency of novels and plays, and the unhealthy conversation of schoolfellows, play no inconspicuous part in the etiology of Neuralgia by promoting an unhealthy psychical condition. The connection between mental and physical disease is forcibly illustrated by the potency of premature sexual knowledge in the production of a Neuralgic tendency. It is undoubtedly such hot-house plants who have the ideas and thoughts of men and women and the years of children who are the favourite victims of Neuralgia, and this point cannot be too much impressed upon parents.

The number of remedies that have been employed in Neuralgia, all have proved effective at times; each has its apostle among the leaders of opinion, and, unfortunately, cases are not wanting in which all have proved equally impotent. Arsenic, Erb terms the sovereign remedy, and recommends that it be administered either in the form of Fowler's solution, from 3 to 10 drops several times a-day, or arsenical acid, from $\frac{1}{3}$ to $\frac{1}{6}$ of a grain per diem in divided doses. Morphia injections, aconite, belladonna, opium, have all acted like charms. Trousseau, beginning with small doses of opium, raised the dose at last to a drachm of morphia and two or three drachms of opium in a day! Chloral and croton-chloral-hydrate have lately produced wonderful results. Cantharidine liniments, leeches, flying blis-

ters, acupuncture, cautery and galvanism have succeeded as local applications. Strychnia, nitrite of amyl, phosphorus, actœa racemosa, quinine, have all their advocates. It should be remembered that the use of these drugs should always be preceded by a regulation of the bowels, in fact, a brisk purge will sometimes dispel the Neuralgia by itself.

In the *New York Medical Herald* Dr. Hurd related an obstinate case that yielded to half-teaspoonful doses of saturated tincture of gelseminum, while Dr. Spencer Thomson, in the *Practitioner* (1876), gives the result of forty cases cured with tincture of gelseminum sempervirens, the dose being 20 minims for the adult, to be repeated any time after an hour and a-half, if relief is not given. He hardly ever had to give a third dose. In the *Practitioner* (Vol. 15), Dr. David Young gives the notes of two cases successfully treated with chloride of ammonium—(1) a widow, ætat thirty-seven, had borne three children, the last being a troublesome labour. For sixteen years she suffered acute Neuralgia of the right ovary a fortnight after each menstruation. She described the pain as being like having a difficult labour every month. 15 gr. of chloride of ammonium were given every two hours till three doses had been taken. The pain disappeared. The treatment was resumed midway between each monthly period with the most satisfactory results.

The second case is one of Neuralgia of the first and second divisions of the fifth pair, which had lasted four days. On the evening of the fifth day 13 gr. of chloride of ammonium were given every hour, from 6 to 12 p.m., under this treatment the Neuralgia gradually subsided, and had wholly disappeared on the eighteenth day.

I may add a case of my own of a gentleman of Neuralgic tendencies, who came to me suffering from acute Neuralgia of the inferior dental and anterior dental (superior maxillary) nerves, referred especially to a carious lower molar; the Neuralgia yielded to a purge and three doses of chloride of ammonium (20 gr.). The tooth was filled with

amalgam, and the patient has had no recurrence of the pain since.

R \bar{z}	Ammon. Chlorid.....	3ij
	Sp. Chlor.	3ij
	Tinct. Limonis	3i
	Aquæ ad	3vj
	One-sixth part every two hours.	

Dr. Young finds that small doses (10 grs.) every hour are more efficient than larger doses given less frequently.

(To be concluded).

Affections of the Ear arising from Disease of the Teeth.

THE *American Journal of Medical Science* for January of the present year, contains an interesting and instructive paper upon affections of the ear arising from diseases of the teeth, by Dr. S. Sexton. The author's attention was first attracted to this subject by the case of a patient suffering from acute purulent otitis, whose progress seemed to be retarded by the presence of a carious tooth. Since then he has kept a careful record of about fifteen hundred cases of aural disease, and finds that of those, about one third are in some way connected with diseases of the teeth. Most of the writings of the older Otologists and Dentists are very meagre on the relations of these diseases, fortunately they have been treated of at considerable length by Woakes and Cooper. The sources of connection between those diseases may be two-fold. First, it may be by disease extending from the teeth to the gums and throat, and thence to the ear by the Eustachian tube, or secondly, through the nervous system. Regarding the first, it is sufficient to say that such a round-about connection can only explain a very limited number of the cases in which disease exists simultaneously and sympathetically in the two organs; it is therefore, almost entirely to the second source that we must look for an explanation of the phenomenon. Simple continuity of the sensori-motor nerves, as Woakes pointed out, would be insufficient to produce such conditions, but they may be readily caused through

the medium of the vaso-motor nerves, as physiological researches have shown that the vaso-motor relations create instantaneous communication between parts of the body widely separated.

The mode in which these nerves convey impressions to parts so widely distant from each other, may be shortly explained. The vaso-motor fibre communicate freely with ganglia situated at various parts of the body, in which they mix freely with nerves from other and remote parts. From the ganglia the nerves pass to the spinal cord, and run up through its anterior columns to the vaso-motor centres of the brain. They then pass downwards along the anterior columns, giving off branches freely on the way, which pass into and mix in the sympathetic ganglia. After leaving the latter they seek their several destinations on the coats of the arteries, whose calibre they regulate. The sympathetic ganglia are, therefore, correlating organs by means of which different impressions coming from one direction are reflexly deflected in a totally different direction. In addition to the vaso-motor nerves, the trigeminal and eighth pair bring the buccal and pharyngeal cavities and the ears into close relationship.

The ear begins to suffer from sympathetic dental irritation from the time of appearance of the two central incisors till the completion of the milk dentition, and afterwards in children from caries of the milk teeth. One of the chief symptoms of aural affections produced by irritation of the teeth is hyperæmia of the ears; the little patients often suffer also from ear-ache, which is frequently accompanied by considerable deafness. Indeed few aural catarrhs of infancy are not preceded by the hyperæmia of first dentition. The aural affections occurring during the first dentition are often no sooner cured than they are aroused again into activity by the cutting of the second teeth, the eruption of each tooth being accompanied by a fresh exacerbation of ear-ache and otorrhœa. In a public institution recently inspected containing children of both sexes who were almost exclusively within the period embraced by second denti-

tion, it was found that about 6 per cent. of the children were suffering from otitis media purulenta, or were the subjects of ear-ache. In some of the cases there was ear-ache and tooth-ache at the same time, and in all there existed some anomaly in the teeth, either the eruption of the teeth themselves had greatly irritated the gums, especially in those cases where fragments of the coronary substance of the milk teeth still remained attached to the gum, or the second teeth were irregular or carious. A general catarrhal condition of the mouth, aggravating all the above conditions was commonly present.

The appearance of the third molar or wisdom tooth is very frequently a source of grave aural affections, and if the ear be in a diseased condition when its eruption begins, there will be an aggravation of the symptoms; as examples of this is quoted the case of a patient, a young man suffering from a mild attack of aural inflammation caused by sea bathing. The membrana tympani being slower of clearing up than usual under treatment, led to a minute examination of the mouth, and it was found that a superficial abscess had formed over the left lower molar tooth of the same side. Another case that of a lady 21 years of age, who had gradually been losing the power of hearing for 18 months, had been subject to frequent attacks of ear-ache during the greater part of that time, and had suffered so much from tinnitus aureum that her rest at night was seriously disturbed; the membrane had become atrophied and retracted, examination of the mouth showed the cause of the disturbance depended upon irritation of the wisdom teeth. Irritation in the jaw occasioned by the wisdom teeth is apt to be soon felt in the ear, and the hyperæmia produced in the external meatus may easily mislead as to the real cause of the disease. Should the throat be involved, as it is likely to be in cases of difficult dentition, the sympathetic action in the ears will be found to depend also on influences other than the irritation of the dental filaments of the fifth nerve, for the pharyngeal and tonsilic branches of the eighth

cranial nerve will bring the throat into direct relationship with the sympathetic system, through which the ear is affected. Affections of the ear dependent upon dental irritation are always of a painful nature during youth, while in those of later years, that symptom is modified or even absent: In many diseases of the teeth pain is absent, and they may be unrecognised by the patient till his attention is called to them as being the cause of tinnitus aureum or deafness. This is specially the case in caries, which may cause incurable deafness through the long continued aural hyperæmia it produces. Irritation from concealed fangs, left on extraction or after decay of the rest of the tooth is frequent, and from this source neuralgias arise in which the ear participates in numerous instances. Hypertrophies of the teeth and alveolar processes act in the same way, producing hyperæmia of the ears. Aural inflammations frequently depend also upon irritation caused by artificial teeth, especially when they are worn constantly. This may indeed be followed by very grave results, and the cause of the disease not recognised till it is too late.

Local treatment of the aural disease in any of these cases will have little effect until the primary cause is removed. The *modus operandi* of these affections is well illustrated where the *nervi-vasorum* supplying the vessels that go to this region are connected by thin filaments through some of the sympathetic ganglia with the nerve coming from the diseased tooth. The result of the irritation of the dental filaments of the fifth pair, is a transmission of the irritation along the nervous route, thus established to the ear accompanied by dilatation of the vessels. The arteries supplying the meatus are thus distended beyond their normal state, and congestion, acute or chronic takes place. Pain is then experienced as a result of an acute attack, or may be absent when the congestion is chronic. There is also probably reflex irritation of the *vasi-vasorum* of the anterior auricular branch of the temporal artery, in its ramifications on the walls of the meatus auditorus externus producing hyperæmia of those parts.

Royal Microscopical Society.

ADDRESS OF THE PRESIDENT, DR. LIONEL S. BEALE, F.R.S.

Feb. 11th, 1880.

AFTER having feelingly referred to the losses the Society had experienced during the year, Dr. Beale spoke as follows :—

The Nature of the Changes in Living Matter.

For consideration in my address this evening I have ventured to choose a subject which I hope will not prove altogether without interest. It seemed to me that every one who can use the microscope and study the countless living forms frequently presented to his view, as, for example, in a few drops of water, must often long to know more concerning the nature of the forces or powers which determine their origin, their growth, multiplication, and actions than has been thus far conclusively determined. The question has been considered again and again, but the conclusions with regard to important principles are at variance and often incompatible or contradictory, and certainly need more full consideration and free discussion than they have yet received. As the general views in question affect almost every department of human thought, and must continue to exercise an important influence upon considerations connected with religious and even political opinion, as well as our views concerning the principles upon which the training and education of the young should be based, no apology is needed for bringing them under your notice.

Observers in these days, in a discussion like the present, have some advantage over their predecessors, inasmuch as the actual matter of any given living organism which was in a living state at the time of the examination can with certainty be distinguished from that which was not actually living. Few, I imagine, who have considered the facts would now venture to affirm that *all* the matter of any living organism was at any one time really in a living state. The body of every living man or animal at all periods of time consists only in part of matter that is living, the greater proportion of the matter of the body being in a non-living state. But by calling much of the tissue “living” which does not manifest any characteristics of life, and really contrasts in every important particular with that which lives, those who support the materialistic argument manage to lead a few persons imbued with

a large share of faith to believe that they have reason on their side.

The general purport of my remarks will be to show, contrary to the teachings which are now most popular, that the living state and the non-living state belong to different categories, and that these two states are distinct and irreconcilable. Between the living matter of a living body and its non-living matter there is a sharp contrast, and the changes going on in the one are in their essential nature altogether distinct from those occurring in the other. In those situations where the living seems to shade into the non-living, the gradation is apparent, not real, and the continuity between them is only apparent. The seeming gradational passage of one into the other is due to the varying proportion of the living matter to that which is non-living in a given bulk. But between the particles actually living and the matter around them, which is non-living, there is no gradation whatever. Living particles may be very near to the non-living, nay, they may touch them, but the actual state of the one is totally different from the actual state of the other. The change is really sudden and abrupt, and the differences between the particles are not of degree, but of kind, and are essential, irreconcilable, absolute.

But the very contrary of all this is taught far and wide at this very time. It is maintained by many writers and thinkers that between the living and the non-living there is no clearly marked demarcation, that the one passes by insensible gradations into the other, that the phenomena of living matter are of the same order as those of non-living matter. It has been recently laid down by Dr. Allman, at the last meeting of the British Association for the Advancement of Science, that an analogy between the phenomena of living matter and the phenomena of lifeless matter is to be recognised, although he neither mentions the particular phenomena to which he refers, nor points out any particular forms of living matter and lifeless matter which exhibit the analogy he declares. Is it too much to ask that Dr. Allman and those who think with him upon this important question of the nature of life, and the supposed analogy between the vital and non-vital phenomena, should explain themselves more clearly, and point out the facts to which they appeal, and upon which they profess to rely, in support of the view they entertain? For my own part, I shall be grateful to any one who will bring to any of our meetings any specimen of living matter which illustrates the supposed transition from the

non-living to the living, or of non-living matter which is supposed to manifest phenomena exhibiting analogies to those of living matter. Up to this time I cannot admit that one holding the views I controvert has advanced facts which in any way justify his doctrine, and I maintain that the conclusions generally entertained and taught with regard to the actions of living matter and non-living matter are not to be justified and are really incorrect.—*From Transactions Royal Microscopical Society.*

(*To be continued.*)

Association of Surgeons Practising Dental Surgery.

Wednesday, February 18th, 1880.

W. A. N. CATTILIN, F.R.C.S., President, in the Chair.

The means of Diagnosis afforded by an Examination of the Teeth and Mouth in Doubtful Cases of Constitutional Disease.

—Mr. HAMILTON CARTWRIGHT opened a discussion on this subject. He desired to show how some knowledge of dental lesions might be of the greatest service to practitioners of medicine and surgery; whilst, at the same time, the qualified surgeon practising dentistry might give valuable aid to his *confrères* in many dubious cases. The first subject to which he drew attention was that of neuralgia, connected more especially with the head and neck, which he divided into supra-orbital, infra-orbital, and facial, mental, and cervico-facial. He held that there was no such disease as idiopathic neuralgia; that a cause for it was invariably to be found, whether in connection with the impression created on the nervous centres by the ovum in the womb, or by the diseased tooth. He combatted the theory, that in ordinary cases there was degeneration of the posterior roots of the spinal nerves, on the ground that, in many cases, sudden and complete cure followed the removal of an exciting cause of pain. Though the teeth were very frequently the originators of a spurious kind of neuralgia, he thought that they were very often unjustly blamed and sacrificed. In speaking of the *loci* of neuralgic pain, he suggested that the symptoms of neuralgia were,

in many instances, due to pressure on the main branch of a nerve, caused by exostosis around the edges of the foramina, through which they passed. He gave the means of diagnosing between pain due to dental causes and that caused by lesion of the nervous centres or of special nerves. He said that, in gout, there was a special condition of the teeth and oral mucous membrane by which the disease might be diagnosed, and even anticipated, in hereditary cases. He noticed the sign of syphilis seen in the mouth, as well as rickets, phthisis, and dyspepsia; and concluded by discussing the signs of scrofula and struma in the glands, laying great stress upon the fact that a lack of knowledge of the elements of dental surgery, such as might be acquired in any general hospital, frequently was the cause of glandular abscesses being treated as scrofulous, when they were entirely owing to causes connected with the teeth.

The PRESIDENT thanked Mr. Hamilton Cartwright, and quoted several published cases to support his theory that the local cause of facial neuralgia was often to be found in a remote part, and *vice versâ*. He instanced the case published by Sir Charles Bell, in which an ulcer of the stomach had caused facial neuralgia; and others, mentioned in Sir Henry Hallford's *Essays*, in which osseous deposit on the crista galli of the ethmoid bone had produced the same effect. Perhaps the most interesting case was one published by the late Mr. Sercombe, in which severe spasm of the uterus was clearly traced by experiment to the exposed pulp of a tooth. He thought facial neuralgia was more frequently to be traced to the gouty diathesis and an impoverished condition of the blood than Mr. Cartwright supposed: although cases of neuralgia from constitutional causes were by far the most rare, and Dr. Fothergill had shown that they were common in malarious districts.

Mr. FRANCIS MASON commented upon the importance of distinguishing syphilitic from other diseases of the cavity of the mouth; and remarked that the commonest form of secondary eruptions in that cavity was found in a raised whitish patch, somewhat indented from contact with the

teeth, and situated inside the cheek, near the angles of the mouth, on both sides. He believed that, in true syphilitic sore throat, such patches were observed either over the tonsils, or extending as crescentic elevations on the soft palate. If the tongue were affected, the patches were chiefly on the sides of the organ, and indented from contact with the teeth. He believed that this peculiar raised condition, due to the effusion of lymph, characteristic of true syphilis, was much more commonly to be observed than the deep excavated ulcer. He further remarked that it was customary at the present day to attribute all cases of exfoliation of the palate and nasal bones to syphilis. His own experience led him to believe that, in by far the majority of such cases, there was no history whatever of true syphilis. In reply to a remark by the President, he said that the awful destruction of the bones of the face and soft parts, occasionally seen in former years, but now, happily, illustrated only in the museums, was due, not to syphilis, but most probably to the wholesale administration of mercury. He urged the importance of making a correct diagnosis; and instanced some cases in which the mere eruption of a wisdom-tooth had been mistaken for syphilitic sore throat, and had been treated accordingly.

Mr. EDGELOW considered that neuralgia had always some positive cause, and narrated a case that had come under his notice at St. George's Hospital, in which exostosis of the fang of a tooth had caused severe pain in the hand, which subsided at once on the extraction of the tooth.

Mr. RANGER stated that, in two cases which he had recently met with at St. Thomas's Hospital, the same result followed. The first case was that of a young man who suffered extreme pain in the right arm and down to the hip-joint. He found a lower bicuspid very much decayed, and, on destroying the pulp with arsenic, the pain ceased almost immediately. The other case was one of hysteria in a girl, when, on removing a lower bicuspid, much decayed, the same result followed.

Mr. HAMILTON CARTWRIGHT briefly replied.—*British Medical Journal.*

Memorial for the Repeal of the Dentists Act.

The following communication from the Association of Surgeons Practising Dental Surgery, was read at a recent meeting of the Executive Committee of the General Medical Council :—

TO THE PRESIDENT AND COUNCIL OF THE GENERAL
MEDICAL COUNCIL :—

The Association of Surgeons practising Dental Surgery beg respectfully to ask your consideration of the *Dentists Act* of 1878, with a view to its amendment or repeal.

We do so more especially at this time as there are now Medical Amendment Acts before Parliament.

We beg to point out that, as indicated in the Preamble of the Act, it was intended to make provision for the registration of persons “specially qualified to practise as Dentists.”

That this result has not been obtained may be inferred from the fact that more than five thousand (5,000) persons have been registered as Dentists, whilst the highest estimate formed by those who were interested in the passing of the *Dentists Act* was, that not more than two thousand persons could be registered in Great Britain and Ireland to practise Dentistry. There can therefore be no doubt that a very large proportion of the persons registered do not possess the qualifications in the Preamble of the Act, and therefore that the registration is deceptive.

This result is due to the wording of Clause VI of the *Dentists Act*, in which it is stated that “any person who (*c*) is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, &c. &c., shall be entitled to be registered under this Act. No interpretation of the terms “Dentistry,” or “Dental Surgery” having been given, each person claiming registration has interpreted these words after his own fashion, and consequently many persons have been placed on the Dentists’ Register, without any claim to be “specially qualified.”

It is quite true that the General Medical Council, by

Clause XIII, can "cause to be erased from the Dentists' Register any entry which has been incorrectly or fraudulently made," but until the words alluded to in the preceding section are clearly interpreted it will be impossible for the General Medical Council to remove the names of persons who may be felt not to be "specially qualified" as Dentists.

Even if the General Medical Council could act under this clause, the delay and difficulties in carrying it into operation are so great that much harm will be done before the desired result can be obtained: for example, the Council of the Royal College of Surgeons in Ireland have represented to the General Medical Council that the name of a certain individual has been removed from the register of Dental Licentiates of that College, on account of his "admitted unprofessional conduct"; yet such are the arrangements by which this case can be brought before the General Medical Council and finally settled, that it may occupy more than a year from the present date, the name of such person remaining all this time on the Dentists' Register.

From this may be seen that a large and important body like the General Medical Council, meeting at rare intervals, and having special and important business of its own to attend to, is not that best qualified to undertake the duties assigned to it by the *Dentists Act*.

That such was felt to be the case is made manifest by a reference to the Lord President's *original* Bill of 1878, in which, by Clause XIII, the power was given to the General Medical Council to frame "a scheme for the examination, licensing and registration of Dentists," and that "such scheme when approved by the Privy Council shall have effect as part of this Act, subject to being from time to time revoked, altered, and added to by a subsequent scheme submitted by the General Medical Council to, and approved by, the Privy Council." Under this clause it would have been possible for the General Medical Council to have established a board, the regulations of which

under the control of the Privy Council, would have had all the force of the clauses of an Act of Parliament, yet which could be modified according to circumstances.

This was evidently the object the General Medical Council had in view when it passed a resolution, on the 4th of July 1878, to the effect, "that the Council desires to express its wish that the Bill entitled the Dental Practitioners Bill be brought into conformity with the Dental Clauses of the Lord President's Bill." This recommendation of the General Medical Council has been disregarded, and instead of the Council being authorised to frame a scheme, as above shown, the whole work of carrying the Act into operation has been thrown upon the Council itself, which has thereby been made an executive and not a legislative body.

Lastly, the *Dentists Act* enables certain Doctors of Dentistry to be registered who can use the title of "Doctor," a proceeding which will render it impossible to carry into effective operation the XXIV Clause relating to unregistered persons in the Medical Act (1858) Amendment Bill of the Lord President; whereas, also, the Act does not prohibit persons from assuming the title of Surgeon in conjunction with that of Dentist by those who do not possess any surgical qualification whatever.

We therefore earnestly pray that the General Medical Council will be moved to take such measures, with reference to the Medical Amendment Act before Parliament, as will secure a due interpretation of the terms "engaged in the practice of Dentistry or Dental Surgery" made use of in Clause VI of the *Dentists Act*.

That they will also be pleased to cause to be introduced in Clause XXIV, line 37, in the Lord President's Bill, after the words "takes or uses," either alone or conjunctively with any other word or words, "the designation, &c."

Finally, to consider whether it will be for the convenience of the Medical Council, and for the interests of Dentists, that Clause XXIII of the original Bill of the Lord President

should not be made law and the *Dentists Act* either repealed or modified accordingly.

Believing that such modifications are absolutely necessary, we earnestly and respectfully request the serious attention of your Council.

On behalf of the Association of Surgeons practising Dental Surgery,

11, Chandos Street.

J. HAMILTON CRAIGIE,
Hon. Sec.

Memorial in Support of the Dentists Act,

ADDRESSED TO THE

GENERAL MEDICAL COUNCIL.

GENTLEMEN,

The lately published Memorial addressed to the General Medical Council by the Association of Surgeons Practising Dental Surgery, urging the "consideration of the Dentists Act with a view to its amendment or repeal," imposes upon the Representative Board of the British Dental Association the duty of preparing a counter memorial, of which the Board respectfully asks the consideration of the Medical Council.

Before entering upon the questions raised in the first-named Memorial, the Board thinks it desirable to inform the Council that the British Dental Association represents the opinions and interests of Surgeons practising Dental Surgery (thirteen of whom are members of this Board) as fully, and there is reason to believe much more fully than the so-called Association of Surgeons Practising Dental Surgery; and that it represents, in addition, the interests and opinions of the Licentiates in Dental Surgery, and of such other of the Registered Dental Practitioners who conduct their practice in conformity with professional usage. Furthermore, that the British Dental Association was formed by the unanimous vote of a meeting of Registered Dental Practitioners publicly convened, and very largely attended; and that one of the principal objects of its formation is the upholding and maintenance of the spirit and provisions of the Dentists Act.

Acting under the instructions of the Representative Board, we beg respectfully to submit that the "consideration of the Dentists Act with a view to its amendment or repeal" before that Act has been brought into full operation, and before its value when in full operation has been tested by experience, would be not only premature, but altogether unprecedented. And, furthermore, that the provisions of the Act at the time of its passing were fully understood, and that hitherto nothing has occurred in the operation of the Act which calls for or would justify such consideration.

The foregoing opinions are supported by the following facts:—

(a.) In respect of registration the Act does not break new ground, but follows in the lines of all preceding similar compulsory registrations, excepting in so far that more complete provision is made for the correction of the register than has hitherto been provided for the expurgation of a first issued and consequently imperfect register. But sufficient time has not been given for bringing into active operation the ample means provided for correction. Considerable progress has, however, been made in the collection of evidence (and otherwise) which, when completed and placed at the disposal of the Medical Council will, in the opinion of counsel, lead to the erasure of very many incorrect entries. But if due consideration be given to the rights of persons registered, even on their own incorrect or false declarations, the investigations of their claims to remain upon the register must be conducted with care, and a legal determination may in certain cases be needed.

(b.) We beg to observe that the preamble of the Dentists' Act is quoted in the aforesaid Memorial in part only, and that allegations of failure in registration based upon a mutilated quotation need no consideration. The preamble requires that persons specially qualified, and also persons practising as dentists, shall be dealt with; and the two conditions are fulfilled by the registration of the special qualifications of the one, and the practising of the other (without qualification).

(c.) The draft of the Dentists Bill was considered and generally approved by the Surgical Corporations, and the General Medical Council approved the Dental section of the Lord President's Medical Bill, subject to certain amendments, one of which consisted in the substitution of one of the clauses by a clause taken from Sir John Lubbock's Bill. The Dental section of the Government Bill when so amended, became in general effect similar to the Dental Bill of Sir John Lubbock, for which latter the Royal College of Surgeons of England expressed its preference in a communication addressed to the Medical Council. One thousand one hundred and fifty dental practitioners petitioned Parliament to pass the Bill. Included in this number were seventy Surgeons practising Dental Surgery. There are supposed to be about 100 Surgeons practising Dental Surgery, and of these, sixty-nine Memorialized Members of Parliament individually in favour of the Bill.

When in the House of Lords, the Bill, under the direction of the Government, was amended and made conformable with the Medical Bill and the

amendments were accepted by the Commons. The Surgical Corporations accepted, and at once acted upon the powers given to them by the Act. And Dental Schools have been established for the purpose of affording the special portion of the education prescribed under the Act.

(*d.*) An adverse Memorial was addressed to Members of Parliament, and adverse motions were made and negatived in both Houses. The views put forward by the Association of Surgeons practising Dental Surgery, were well known to the Surgical Corporations and to the General Medical Council during the many months the Bill was under consideration.

(*e.*) We beg to submit that the question raised in the Memorial from the last named Association, respecting the use of the term Dental Surgeon, &c., has been very fully discussed and conclusively decided: 1. By the Medical Council on two occasions. 2. By the Parliamentary Committee of the British Medical Association. 3. By Parliament itself when the Dentists Bill was in committee. 4. And subsequently by the Surgical Corporations in the wording of their respective Dental Diplomas. For to contend that a person who is declared by a Surgical Corporation to be duly qualified to practice the "art and science of Dental Surgery," and to be a Licentiate in Dental Surgery of that Corporation, is not by the nature of his qualification a Dental Surgeon, would be to advocate a senseless perversion of the use of language which would apply with equal force against the use of the term Surgeon by persons qualified to practice Surgery, or of Physician by those qualified to practice Physic. For the future no unqualified person can be registered; and it is not usual for Parliament to pass laws to act retrospectively. If foreign qualifications are to be registered the foreign titles must be accepted, whether or not they happen to include the term Doctor, or Surgeon. For it is not likely that the proposal to limit the exclusive use of either term to one grade of persons only, would be seriously entertained either abroad or at home.

(*f.*) In respect to the interpretation of the term "engaged in the practice of Dentistry or Dental Surgery," we beg to submit that paraphrases would not constitute or supersede the necessity of a legal interpretation. We are informed that what constitutes a *bonâ fide* practising in the eye of the law can be determined only upon a case being submitted to a law court, a course which may be followed with obvious advantage by the Association of Surgeons Practising Dental Surgery.

(*g.*) In answer to the alleged incompetence of the General Medical Council to carry out the provisions of the Dentists Act, we beg to refer to the Report of the Executive Committee on the construction and working of the Council, wherein it is stated that "the Committee are of opinion that the Council is quite adequate for the performance of the additional duties;" and also to the expressions of gratitude conveyed to the Council by the British Dental Association and by the Western Counties Dental Association for the prompt and efficient manner in which the Dentists Act has been carried into effect.

(*h.*) We do not consider ourselves at liberty to discuss the manner in which the General Medical Council thought fit to deal with the first draft of the Lord President's Medical Bill; but we may remark that the quotation therefrom is from its partial nature (like the quotation from the preamble of the Dentists Act) misleading. For the Memorial says nothing about the

objection the Council raised to accepting the duties of "initiation" generally, (Minutes, April 12, 1878) or of the desire expressed in a resolution that its duties should remain restricted to "superintendance and control," but notwithstanding the resolution of the Council to the contrary (April 13, 1878), the Memorial leaves it to be supposed, and even argues as though no objection had been raised on the part of the Council to its undertaking the initiation of "a scheme for the examination, licensing, and registration of dentists." Again, the objection raised by the Council to delegating to a committee the power of erasing names from the Register, and the omission of this power in the amended Bill, to which it is desired the Dentists Bill should be made to conform, is altogether ignored in the Memorial, and the resolution asking for conformity is incorrectly applied to the Government Bill when in its unamended state.

Still less do we feel at liberty under cover of a dental question, to enter upon the discussion as to what the constitution of the Medical Council should be; whether it should be an Executive or Legislative body.

(i.) The allegation that the Dentists Bill was not—as recommended by the Council, July 4—brought into conformity with the Lord President's Bill, as it then stood, is at variance with the well known facts of the case. A letter from Mr. Jenkyns (see Minutes July 1, 1878), states that the required conformity is about to be made,* and a comparison of the Dentists Bill as it entered the House of Lords with the Dentists Act and with the Government Medical Bill of July, 1878, confirms the statement made to the Council by the Government Draughtsman.†

In conclusion, we respectfully beg to submit that the Association of Surgeons practising Dental Surgery, have in their Memorial put forward allegations which cannot be supported, and have otherwise altogether failed to make out a case which would justify a "consideration of the Dentists Act with a view to its amendment or repeal." And we may add that no sufficient reason can be adduced for disturbing questions recently settled (after full deliberation) to the satisfaction of an overwhelming majority of those interested in the settlement.

On behalf of the British Dental Association, and in the interests of Dental Education, for the successful conduct of which a settled state of the profession is needful, we venture to express an earnest hope, that the General Medical Council will refuse to sanction any tampering with the Dentists Act, until it has had a full and fair trial, and until defects are clearly recognised and its amendment urged by other than the very limited number of persons

* The amendments were introduced and the Bill passed through Committee on the afternoon of July 4, while the Medical Council was sitting.

† "The amendments which are about to be made in the Dental Practitioners' Bill in the House of Lords are proposed by the Government for the purpose of bringing the Bill into conformity with the present Medical Bill, so as to place the Dentists in the same position as they would be in if the Government Bill passed with the Dentists' clause in it, the principles of which have been approved by the Medical Council."—*Extract from Mr. Jenkyns' Letter to the President, see Minutes, July 1, 1878.*

who opposed its passing, who now desire its repeal, and who, there is reason to believe, represent the opinions and wishes of a small minority, even of the qualified Surgeons practising Dental Surgery.

We have the honour to be,

Your obedient servants,

JOHN TOMES, F.R.S., M.R.C.S., L.D.S., Eng.

JAMES PARKINSON, L.D.S., Eng.

JAMES SMITH TURNER, M.R.C.S., L.D.S., Eng.

THOMAS UNDERWOOD, L.D.S., Eng.

EDWIN SAUNDERS, F.R.C.S., Eng.

THOMAS A. ROGERS, M.R.C.S., L.D.S., Eng.

Business Committee of the Representative

Board of the British Dental Association.

40, Leicester Square.

April 7th, 1880.

National Dental Hospital.

THE Annual Meeting of the Governors and Subscribers to this Hospital was held on the 20th of February. Mr. S. Lee Rymer, in the absence of Lord Enfield, occupied the chair.

The Eighteenth Annual Report of the Committee of Management contains the following statement of the progress made by the Hospital during the past ten years:—

Year.	Receipts.			Patients.	Cases.
	£	s.	d.		
June 1869 to June 1870 ...	139	11	0	5,546	6,790
„ 1870 „ 1871 ...	187	13	2	4,840	6,378
„ 1871 „ 1872 ...	168	6	7	5,727	7,239
„ 1872 „ 1873 ...	137	5	1	6,157	7,243
„ 1873 „ 1874 ...	130	7	3	6,081	7,018
„ 1874 „ 1875 ...	160	8	2	6,054	7,059
„ 1875 to Dec. 1876 ...	456	19	11	7,249	8,509
Dec. 1876 „ 1877 ...	463	14	9	9,887	11,352
„ 1877 „ 1878 ...	527	12	9	10,914	13,069
„ 1878 „ 1879 ...	541	6	10	12,133	14,957

The report also shows that the Corporation of the City of London has awarded a grant of Fifty Guineas to the Hospital; and that correspondence has again passed between the Hospital Sunday Fund and the Committee as to the amount to be awarded by this fund, the result of which was the satisfactory grant of an award half as much again as that of the previous year.

Increased accommodation is urgently required at the Hospital, and plans have been prepared by Messrs. Clarkson, of Great Ormond Street, carrying out the suggestions of the Committee: The cost of these alterations and additions would amount to about £400.

The receipts amount to £541 6s. 10d., and the expenses to £502 18s. 2d., leaving a balance of £38 8s. 8d.

The report of the Medical Committee shows in detail the work done at the Hospital from January 1st to December 31st, 1879:—

Number of Patients attended	...	...	...	12,133
Extractions.	{ Children under 14	...	...	4,003
	{ Adults	...	...	5,377
	{ Under Nitrous Oxide	...	...	595
Gold Stoppings	...	...	...	438
Other Stoppings	...	...	...	2,598
Advice and Scaling	...	...	...	1,222
Irregularities of the Teeth	...	...	...	272
Miscellaneous	...	...	...	452
Total				14,957

Early in the year, Mr. Willoughby G. Weiss, L.D.S. Eng., was appointed to the office of House Surgeon. Since that gentleman undertook his duties, the daily work of the Hospital has been much facilitated, and the staff find in him an efficient colleague.

The Committee regret to report the resignation of Mr. James Stocken, one of the Senior Dental Surgeons. Though Mr. Stocken has been compelled to relinquish his extra-professional duty, he continues to take part in the administration of the Institution. The vacancy caused by Mr. Stocken's retirement has not been filled up.

Mr. C. J. Noble has been appointed an Assistant Dental Surgeon.

Two vacancies have occurred among the Assistant Dental Surgeons by the resignation of Mr. Taylor Smith and Mr. L. W. Stevens.

The resignation of Mr. Oakley Coles as Dean of the School was received with much regret; and the Medical

Committee here express their gratitude to that gentleman for the valuable services he has rendered to this Institution. Mr. Gaddes has kindly undertaken the duties of Dean.

The teaching and, as a result, the work done at the Hospital have been considerably enhanced in efficiency by the delivery of a series of Clinical Demonstrations, and also of a Course of Lectures on Operative Dental Surgery and Therapeutics, by Dr. Thompson (the latter course of twelve lectures were under the auspices of the College); as well as by each member of the staff undertaking to deliver at least two Clinical Lectures during the year. The importance of practical teaching cannot be over estimated, and the general character of the work done by the students at the Hospital will compare favourably with that so done at any other institution.

The CHAIRMAN, in proposing that the reports be adopted, alluded to the progress which the Hospital had made, and thought that this was mainly due to the importance of Dental Science being now more recognised, and to the fact of the Educational Department of the Institution having largely developed.

Mr. OAKLEY COLES proposed a vote of thanks to Mr. Rymer for his presence in the chair, and pointed out the desirability of bringing about a union of the management of this Hospital with that of the Dental Hospital of London. By this means, he maintained, there would be a reduction of friction and conservation of energy in working the two institutions which had one common object for their existence. The two Hospitals were not in competition with each other; but they ought, in his opinion to form an educational centre for the metropolis.

Dental Hospital of Exeter.

A MEETING of the subscribers and friends of this Institution, which was recently formed in the city, was held at the Guildhall, on the 14th ult., to pass the rules and constitu-

tion of the Hospital, and to elect the President, Committee of Management, and medical staff. The Right Worshipful the Mayor (W. H. Ellis, Esq.), presided, and amongst those present were the Right Rev. the Lord Bishop of the Diocese and Mrs. Temple, Mrs. Sanders, the Sheriff (S. Jones, Esq.)

The MAYOR, in opening the proceedings, said that they were met for the purpose of establishing in Exeter a Dental Hospital, and he thought they must all admit that it was advisable to have such an institution. Few escaped altogether the torture of toothache, and they must all know how terrible it was to bear. He believed it was Shakespeare who said—

For there was never yet philosopher.

That could endure the toothache patiently.

He was sure all would feel that it was important that the poor should have a place where they could go and have proper attention. He was very glad to see such an institution started. Similar institutions had been in existence in London and elsewhere for upwards of a quarter-of-a-century, and at Plymouth, he believed, there had been one established for 17 years. The idea of a similar institution for Exeter emanated from Mr. Spence Bate at the annual meeting of the Dental Association in the summer, and though Exeter had not been the first to start hospitals of this kind, he trusted that the zeal of the Committee would be such that it would soon become one of the best in the kingdom.

The Right Rev. the LORD BISHOP, in moving the first resolution, said that he was very glad indeed to take part in starting the establishment of a Dental Hospital in the city. It had always been a glory of this country that all the resources of science sooner or later had been made available for the use of posterity, and it had been the great glory of our hospitals that whatever discovery might be made in medicine or therapeutics it was instantly at the service of all classes alike, and that even the poorest man might have the best possible medical or surgical advice.

And it was only an extension of that desire to benefit all classes, that they proposed to establish a dental hospital. Such an Institution would be a blessing not only to poor people but, to the public and the dentists. He heartily concurred in the proposal to establish the hospital and should be very glad to subscribe towards the funds. He begged to move "That a Dental Hospital for Exeter be established."

The SHERIFF supported the motion with great pleasure.

MR. SPENCE BATE, F.R.S., said that it had given him great pleasure to come up to assist in starting this Institution. At Plymouth they had about 2,000 patients to attend to in the year, and the advantage was generally felt throughout the neighbourhood. In establishing that Institution they would find that it would be the means of relieving many poor persons who had suffered for a long time, because they had not confidence in the men they could go to, and had not the means to pay a large fee to those in whom they would have had confidence. He contended that such an Institution, in teaching persons to take care of their teeth, would inculcate the virtue of cleanliness, for, he said, one never saw a man with clean teeth dirty in other parts of his person. He also referred to the importance of good teeth for the purposes of mastication, and, in conclusion, suggested whether it was not possible to make the Institution a kind of provident one, where people could feel that they had a right to come, and not a mere charitable Institution.

The motion was then carried unanimously.

MR. H. D. THOMAS moved the adoption of the rules of the Institution.

Major WYATT-EDGELL seconded the motion.

It was stated, in answer to a question, that the Institution did not undertake to provide mechanical aid in providing false teeth, but simply to prevent pain and extract and stop teeth.

The following gentlemen were unanimously appointed the officers and Committee, viz.:—President, The Right

Worshipful the Mayor of Exeter (W. H. Ellis, Esq.); Treasurer, F. Townsend, Esq.; Hon. Secretary, H. B. Mason, Esq.; Committee, H. R. Courtenay, Esq., George Colson, Esq., Rev. J. G. Dangar, George Franklin, Esq., Rev. W. G. Mallett, W. S. Mortimer, Esq., W. Petherick, Esq., H. D. Thomas, Esq., Major Wyatt-Edgell. The following gentlemen were appointed the medical staff:— Consulting Surgeons, Messrs. A. J. Cumming and C. H. Roper; Surgeon Administrator of Anæsthetics, Mr. W. H. Budd; Dental Surgeons, Messrs. S. Bevan Fox, Augustus King, C. Norman King, Henry B. Mason, J. T. Browne Mason.

On the motion of the BISHOP, a vote of thanks was given the Mayor for presiding, and the proceedings terminated.

Odontological Society of Great Britain.

AT the usual monthly meeting of the Society, held at 40, Leicester Square, on the 5th inst., ALFRED WOODHOUSE, Esq., President, in the chair, Mr. HENRY SEWILL read a communication on the Relation between Diseases of the Teeth and Epilepsy:—

In the course of the discussion on Dr. Brunton's paper on Nervous Affections due to Diseases of the Teeth, read at the previous meeting of the Society, Mr. Sewill had stated that he had not, either during twelve years of hospital practice or in private practice, met with a single case of epilepsy due to diseased teeth, and he believed such cases to be extremely rare. Other members having said that they had met with several such cases, and that they believed that dental irritation was not a very uncommon cause of epilepsy, Mr. Sewill now wished to make some statements in support of the opinion which he had formed. In the first place, it would be clear that if diseased teeth acted as excitants of epilepsy on any but rare occasions, the disease would be certainly much more common than it now is; thousands of children, especially among the poor, were almost constantly suffering from inflammation of their dental nerves, and if only a small proportion of them suffered from epilepsy as a consequence of dental irritation, epilepsy would be as common a disease as measles.

On conversing with his medical friends, he had found a remarkable unanimity of opinion with regard to this subject. Dr. W. R. Gowers, who had just delivered the Gulstonian Lectures on Epilepsy before the Royal College of Physicians, in which he had specially and exhaustively discussed the etiology of this disease, wrote as follows: "I have never met with a case of epilepsy in which there was any reason to attribute the fits to the irritation of decayed teeth. I think that the facts which have come under my notice justify the assertion that, if this cause is operative, the ratio to other causes is less than 1 per 1,000."

Dr. Sieveking, who was for many years physician to the Hospital for Epileptics, and was well known as one of the highest practical authorities on Epilepsy, wrote: "In reply to your question as to the connection between epilepsy and diseased teeth, I should be disposed to affirm that, apart from the convulsions due to dentition in early life, the teeth very rarely afford an exciting cause for epilepsy. I cannot at the present moment call to mind a single case in my own experience in which such a connection was traced."

Dr. Hughlings Jackson, whose name needed no comment from him, said: "I do not think that anything wrong with the teeth is a cause of epilepsy, nor have I ever met with evidence to show that it is an exciting cause."

Dr. Ferrier wrote, "I have not forgotten your query as to the connection, if any, between dental irritation and epilepsy. I cannot, however, among the numerous cases of epilepsy which I have seen, call to mind one in which the circumstances were such as to suggest any such connection. In cases of epilepsy connected with peripheral irritation, the fit is usually preceded by an aura starting from the seat of irritation; if dental irritation was at the bottom of an attack of epilepsy, I think we should find some such evidence as a dental aura. I have never met with such a case. Such a thing is, however, highly possible, and I am only giving my own experience when I say it is unknown to me."

Dr. Buzzard, one of the physicians to the Hospital for Epileptics, and a high authority on this subject, said: "I have in no case been able to satisfy myself that epilepsy was caused by disease of the teeth. In one case there appeared to be a rather close connection between the process of second dentition and the occurrence of epilepsy."

The case was that of a delicate looking boy, eleven years of age, who had always been weakly, was late in cutting his teeth, and did not walk till he was twenty-two months old. When nine years old, he fell from his chair into the fender; he was then cutting a lateral incisor. At ten years of age he cut the two upper lateral incisors; during this process he suffered twice a week or so from very severe neuralgia of the two upper divisions of the fifth nerve. This lasted six weeks. Prior to the removal of the right upper temporary canine, which was tender on pressure, he had had about four fits a day.

"In January, 1874, he had a slight epileptic fit; he had just cut another molar. In March he had numerous fits till another tooth (bicuspid) came through, after which they became less frequent. In May, 1880 he cut three teeth, but his health having now considerably improved, the fits were very slight. Dr. Buzzard added, "It is of course constantly happening that the occurrence of epileptic fits coincides in point of time with the process of teething, but except in this case I do not think that I ever met with any evidence that the connection between the two circumstances was more than that of association."

If an opinion were asked in any particular case as to whether epileptic convulsions might be due to diseased teeth, he thought the answer should be that it was possible, though extremely improbable, that the teeth might be the cause of the disease, and that it would be well, if possible, to remove all sources of dental irritation, whilst holding out no more than a faint hope that in so doing the exciting cause of the epilepsy might also be removed.

Dr. WALKER said he felt grateful to Mr. Sewill for having called the attention of eminent members of the medical profession to the fact that dental irritation might produce epilepsy. He himself had been clearly convinced by cases which he had met with in practice, that dental irritation was a not uncommon cause of epilepsy, and he could only explain the opinions to the contrary which Mr. Sewill had read by supposing that the attention of these physicians had never been specially directed to the subject. He was glad that this had now been done, and he thought it probable that if the same question were to be again put to them six or seven years hence their answer would be very different.

Mr. COLEMAN said that he also had no doubt that dental

irritation was an occasional, and not very uncommon, cause of epilepsy. As medical authorities had been quoted on one side he would refer on the other to the late Dr. Baly, who published in the *Abernethian Transactions* the case of a prisoner of Millbank, who suffered from fits which were evidently due to nervous irritation set up by a bad tooth. He did not clearly understand what Dr. Ferrier meant by the term "dental aura."

Mr. OAKLEY COLES said that at the last meeting he mentioned the case of an epileptic girl whose fits ceased after the extraction of two carious teeth. This patient was sent to him by Dr. Ferrier with the suggestion that possibly attention to the state of the mouth might prevent the fits. Yet Dr. Ferrier stated in his letter to Mr. Sewill, that he had never met with a case in which epilepsy had been directly caused by dental irritation. If the bad teeth were not the cause of the epilepsy in this case he (Mr. Coles) could only say that he was under a misconception as to what was really meant by the term "direct cause."

Mr. SEWILL, in reply, said that Dr. Ferrier was the one who admitted most clearly the possibility of epilepsy arising from diseased teeth, though he said he had never happened to meet with a case in which the connection was indisputable. The letters were written in a conversational style and the writers had only stated their opinions as briefly as possible, without at all entering upon the grounds upon which they had been formed. He thought, however, that it might be taken for granted that men of their position in the scientific world would not deliberately give an opinion on a matter of this sort unless they felt quite able to substantiate it by good and sufficient reasons. A "dental aura" would, he supposed, be an aura starting from, or apparently originating in, the dental nerve.

Mr. OAKLEY COLES presented to the Society a set of models illustrating every variety of deformity of the upper jaw, including those due to the effects of syphilitic disease.

The PRESIDENT then called upon Dr. Walker to open the adjourned discussion on Mr. Oakley Coles' paper on "Deformities of the Upper Jaw."

Dr. WALKER said the best thanks of the Society were due to Mr. Oakley Coles for the production of his original paper, read on the evening of February 2nd. The paper was interesting from three points of view.

(1) Mr Oakley Coles had endeavoured to define clearly a fully and well developed maxilla, and also the various types between the well developed and the ill-proportioned, giving to each subdivision a distinctive name. (2) He had endeavoured to show how the ill-proportioned maxilla had received the impulse and development. (3) These deductions all pointed to the care parents and surgeons should take to prevent in youth a jaw with a tendency to prognathism. In his review of the paper he would leave others to discuss the triangles and the value of the measurements, and would begin his criticisms at page 128. Mr. Coles there said, "my first assertion is this, that the deformity known as intermaxillary prognathism is the result of a force operating on the intermaxillary bone, such force originating in the body of the sphenoid bone, and being transmitted by the intervening nasal septum. I may at once say that when speaking of *force*, I mean a direction of growth in a given line, of such energy as to overcome the resistance offered to it by surrounding structures." What *force* were they to understand Mr. Coles to refer to in this passage? Did he mean that there was a growth of brain substance behind the sphenoid bone which forced that bone bodily forward? or did he mean hypertrophy of the sphenoid bone itself, producing displacement of the intermaxillary and of the other parts in front of it? Then Mr. Coles goes on to say (p. 129) "The foregoing assertion is based upon the interpretation of the following observed facts:—First, the true case of intermaxillary prognathism will have a long thin nose; secondly, this long thin nose is not observable during the first dentition, nor is the prognathism, excepting to a very slight degree. Hence, we may conclude that the long thin nose and prognathous jaw are capable of intensification by growth and development during early life." How many cases could Mr. Coles refer to in which he had traced this process of growth? To continue his quotation, "Thirdly, it has been shown that the measurement from the inter-bicuspid line to the incised angle is greater in the prognathous than in the normal jaw; hence it follows that a change from the normal arch occurs at a point anterior to the second bicuspids, whilst the second bicuspids are known to correspond in position with the second molars of the milk dentition. Thus it is shown that the prognathism is not of the whole jaw carried forward on a horizontal plane,

but is really intermaxillary or alveolo-subnasal in its character. Fourthly, it is a simple logical sequence of the process that produces intermaxillary prognathism carried a step further during embryonic life." This seemed to him a little contradictory after what they had just been told about prognathism not being observable during the first dentition. "During embryonic life that produces double hare-lip and fissured alveolus. Arguing back from these cases of double hare-lip to premaxillary prognathism, we can come to no other conclusion than that the duration and extent of the force operating upon the premaxillary bone determines the nature and extent of the deformity that will be produced." Here was another reference to the mysterious force which he had not been able to identify. Then at page 131, "From collateral evidence we know that many cases of prognathism are associated with such central lesions as will manifest themselves in the form of idiocy or imbecility, and further that the general configuration of the face is ape-like, from its diminishing facial angle and retreating chin, and we also know that in the apes the intermaxillary suture is not ossified till later in life." He wished to ask Mr. Coles what "central lesions" he referred to in this paragraph? After this Mr. Coles proceeded, "I do not of course wish it to be understood that all who have intermaxillary prognathism must of necessity be either idiots or imbeciles, but I desire very distinctly to assert that such a deformity occurring amongst the highly civilised is a distinct mark of deterioration of stock, whilst it is differentiated from the normal prognathism of savage races by the diminished interbicuspid measurement of the highly bred skull." Evidently Mr. Coles meant to say that whilst all who have prognathous jaws are not necessarily idiots, many idiots are prognathous, and he thought that he also wished his audience to infer that by his careful observation of the large number of children with whom he had brought into contact, he could, at any rate now and then, perceive by the shape of the jaw that there was a suspicion of idiocy lying perdu in perhaps some of his best patients. What treatment would Mr. Coles advise a parent to adopt under these circumstances?

Mr. HENRY SEWILL said that he also should be glad to hear some further explanation from Mr. Coles respecting the points to which Dr. Walker had called attention. But before criticising that part of the paper, he felt bound to

enter a strong protest against the words which Mr. Coles had coined, and had used to designate his different classes. He did not pretend to be a great classical scholar, and therefore the remarks he was about to make must be received in a spirit of humble enquiry rather than of criticism. Mr. Coles' first sub-divisions were into macroid and microid; these words were derived from the Greek words *macro*s (big) and *micro*s (small), with the addition of the word *idos*, meaning "like." There were, no doubt, already in use a number of words ending in "oid" which were compounded of the adjective "*eidos*" with a substantive, and meaning something like the substantive; thus one might speak of a tumour as being brain-like (encephaloid), or of a wedge-like bone (sphenoid), but it was ridiculous to speak of a big-like jaw, or a small-like jaw; the jaws must be either big or little. As to the terms dolichoid and brachoid, Mr. Coles had referred to cranial morphology as his authority, but the same objection applied here, and, as a matter of fact, people did not speak of the "similitude of a long skull" or of a short skull, though they did speak of dolicho-cephalic races and brachis-cephalic races. "Inter-maxillary prognathism" was a hybrid phrase, the meaning of which it would puzzle anyone to find out if they had only the derivation of the words to guide them. Literally translated it would be, "between-the-jaw before-the-jaw-ism." The test of the value of a scientific term was, that it should express the same meaning to scientific men of every nationality. The term prognathous had already a recognised meaning, but it had not the meaning which Mr. Coles wished to attach to it. In certain of the lower races of mankind the jaws, as a whole, were prominent, due in part to the massive form and really increased size of the jaws, but in part also to the smallness of the forehead in these races, in consequence of the small development of the brain. This was what was meant by prognathism, but he doubted whether anybody could tell what inter-maxillary prognathism might mean. Inter-maxillary upognathism was another extraordinary compound of Latin and Greek. In the first place, *ὑπω* was always written with an aspirate, and therefore he should prefer to call it "*hypo*," and, in the second it always meant *under* in the sense of *position*, and never in the sense of *deficient* or *wanting*. Assuming, therefore, that inter-maxillary upognathism was translatable, it could not

mean what Mr. Coles wanted it to mean. The only words, out of the number which Mr. Coles had invented, which could be said to possess a clear meaning was lambdoid or alphoid, and he could not see that the term lambdoid maxilla was any improvement on the old name, V-shaped jaw. As Dr. Walker had already read a good deal of what he had intended to refer to, he would only call attention specially to one passage, viz., the following:—"My first assertion is this, that the deformity known as inter-maxillary prognathism is the result of a force operating on the inter-maxillary bone, such force originating in the body of the sphenoid and being transmitted by the intervening nasal septum. I may at once say that when speaking of force I mean a direction of growth in a given line, of such energy as to overcome the resistance offered to it by surrounding structures." It was well known that the ancients ascribed wonderful virtues to the pituitary body, which was situated on the body of the sphenoid bone, but he had never heard before that any force resided in the body of the sphenoid bone itself. If they would accept, on the authority of Mr. Coles, the statement that the force in the body of the sphenoid bone was capable of controlling and governing the growth of the pre-maxillary bone, there would be no difficulty in receiving and agreeing with the other conclusions which Mr. Coles had so ably set forth.

Dr. CHAS. COBBOLD, of Colney Hatch, said there were very few points of connection between the study of dental science and of mental science, but the peculiarities in the shape and formation of the palate and of the dental arch in imbeciles, was one point at which they did come in contact. As medical officer of an asylum he took a great interest in this subject. About four years ago he had assisted Dr. Claye Shaw in making a number of measurements of the palates of imbeciles at the Leavesden Asylum, and Mr. Coles had referred to the paper which Dr. Shaw had published. He remarked that there was a great similarity between the measurements which he had made and those made by Dr. Shaw as regards the average size of palates, their width and length, but there was a considerable discrepancy as regards the average height. Mr. Coles had tried to explain this difference by supposing that Dr. Shaw had measured the depth of the palate from the grinding surface of the teeth, whereas Mr. Coles' own

measurements were made from the junction of the neck of the tooth with the gum. But he could state positively that Dr. Claye Shaw's measurements were not made from the level of the grinding surface of the teeth, but from the junction of the neck of the tooth with the gum. The difference must be accounted for partly by the fact that Dr. Shaw's measurements were all made on living subjects, and Mr. Coles' on dry skulls, and partly that Dr. Shaw's measurements were nearly all made upon imbeciles and idiots, whilst Mr. Coles' were chiefly from normal adults. He certainly thought the triangles of Mr. Coles' method very useful; they gave the length and the width at one or two places and the relative position of the interbicuspid line, but it did not take into account the height or the shape of the palate. One of the conclusions which Mr. Coles had come to was that the best type of European jaw gives an equilateral triangle when treated by his method. Dr. Cobbold could not agree with him in that; he had found that in healthy sane people the base line was considerably longer than the sides of the triangle; only in a few cases of deformed palate, where there had been some degree of prognathism, had he found the sides of the triangle equal to, or longer than the base. Then as to the point at which the interbicuspid line cuts the triangle; Mr. Coles said that it ought to cut the triangle as nearly as possible at its centre, but he (Dr. Cobbold) had found that the point of intersection is always posterior to the centre, sometimes considerably so, and this not only in healthy palates, but also in the deformed palates of idiots and imbeciles. He had found some difficulty in understanding the difference between the brachoid and dolichoid palates; no doubt one might be able to distinguish them when looking at models, but he doubted whether even Mr. Coles himself could tell by looking at the triangles drawn from these models whether the palate was brachoid or dolichoid. Lastly, as to the part played by the intermaxillary bones in the formation of the shape of the palate, there was a great difference in the opinions expressed by Dr. Clay Shaw and by Mr. Coles. The former laid great stress on the shape of the superior maxillary and palate bones, and said that the intermaxillary bones did not influence the shape of the palate in any way. Mr. Coles, on the other hand, asserted that they played the chief part in determining whether a palate will be long

or short, prognathous or upognathous, and in this matter he was inclined to agree with Mr. Coles.

Mr. CHARLES TOMES said it appeared to him that any approximation towards a diagrammatic form on which some of the facts about the jaw could be expressed was a great gain, and it would be a very great gain indeed if we could by means of a compact diagram see at a glance all the more important facts which we wished to know about a jaw either with a view to treatment or to comparison with others. Looking at the points which Mr. Coles had chosen to record, he did not think that they were quite the most useful for general purposes, though no doubt they were very useful for the investigation which Mr. Coles appeared to have had chiefly in view. Even as it was, he thought Mr. Coles' method open to some objections. Thus for the extremities of his base line he took the middle of the second molars, *i. e.* the middle line of the alveolar ridge; but for the terminations of his interbicuspid measurement he took, not the middle of the alveolar ridge, but the inner surface of the necks of these teeth. The result of that was that the base line was longer in proportion than the interbicuspid line, and the antero-posterior lines were also affected, because any difference in the size of the crowns of the molars would throw backwards and outwards the extremities of the base line and increase the antero-posterior length. Then Mr. Coles had, for his own purposes, excluded the wisdom teeth and measured from the posterior surface of the second molars. He wished to investigate the variations in the size and shape of the jaw, and he had excluded the most variable element. This might suit his own purposes, but it unsuited the diagram for general use. Then with regard to Mr. Coles' classification. He divided jaws into macroid, microid, dolichoid, and brachoid. The terms dolichoid and brachoid were meant to contrast with one another, but the forms of jaw which he described under these names were not contrasting forms. His dolichoid jaw was merely a matter of proportions, of comparative width and length, whilst the brachoid jaw was defined not by its proportions, but by absolute measurement; this was, indeed, the objection which had been brought forward in another form by Dr. Cobbold. Again Mr. Coles' hypotheses with regard to intermaxillary prognathism seemed to him if not altogether untenable, yet certainly "not proven."

On the whole then, though he thought that Mr. Coles had done a good work in endeavouring to reduce these differences to a diagrammatic form, but he was sorry that Mr. Coles had attempted so much at once; he thought it would have been wiser if he had put forward his method in a more tentative and experimental form, and had omitted the complicated hypothesis with which he had embarrassed his paper, for while he thought Mr. Coles had made a step in the right direction, he believed that the scheme as now put forward would have to be in some points considerably modified before it could be generally adopted.

The PRESIDENT having called upon the author of the paper for his reply,

Mr. COLES said it was very difficult for him to reply off hand to the elaborate criticisms which had been brought forward that evening. First, with reference to the influence of the sphenoid in its growth on the bones of the face, his observations were based on the authority of Mr. Hilton, who, in his work on the skull, attributed the development of the facial bones and the character of the features chiefly to the growth of the sphenoid.

Then as to the number of cases of prognathism on which his observations were based. He had had under observation for many years a family in which a brother and sister and the two children of the former were all prognathous. The deformity was very marked in the case of the brother and sister and was in process of development in the children. With reference to the apelike faces of the prognathous and the enquiry as to what central lesions he referred to, his answer was that he referred to the lesions which are seen in idiocy and imbecility, and which were to be seen in Dr. Langdon Down's Asylum; amongst his patients there, even characteristics would be found more distinctly marked than in the large public asylums where the children came from a lower class.

He had not intended to bring forward his classification as perfect, and had not for a moment expected that it would be accepted as such; but he had hoped that by discussion the subject would be ventilated and that others would be induced to investigate the matter. The criticisms of Mr. Tomes were very valuable. He quite saw the justice of his remarks respecting the difference in the mode of increasing the interbicuspid and the base lines, and he

thought perhaps it would be best to take both measurements from the inner surface of the tooth just above the margin of the alveolus.

The meeting then terminated with the usual vote of thanks to the contributors of the evening.

Obituary.

THOMAS BELL, F.R.S., F.R.C.S., L.D.S., F.Z.S., F.L.S., &c.

RIPE in years, high in distinctions, and universally respected, has passed away from us one who was in every way an ornament to our speciality.

Mr. Thomas Bell, whose death occurred on the 13th ult., at the advanced age of eighty-seven, was born at Poole, in Dorsetshire, the 11th of October, 1792. His father was a medical practitioner of some eminence at that town, which was, at the time we speak of, a place of much greater comparative importance than it is at present, owing to the large business done then in connection with the whale fisheries. Mr. Bell the father, brought with him from the North some of the notions peculiar to his countrymen, especially in regard to what was considered as over-luxurious and enervating, and thus his son and daughter (afterwards Mrs. Salter) were conspicuous for appearing bare-footed amongst their comrades; the process of hardening, however, appeared to have answered, as both lived much beyond the average duration of life.

After studying under his father, he entered the united Hospitals of Guy's and St. Thomas's in the year 1813, studying in the wards of the celebrated Sir Astley Cooper, Cline, Travers, &c. In 1815 he passed the College of Surgeons, the period of Hospital attendance being then much shorter than it now is. How soon he determined to devote himself to the speciality of Dental Surgery we are not aware, but, if not before, it must have been very soon after, passing the College, as we find he was appointed Dental Surgeon to Guy's Hospital and Lecturer on that subject in 1817. He also lectured at the same school

on Comparative Anatomy until the year 1836, when he was appointed Professor of Zoology at King's College, London. Mr. Bell first commenced practice in Bucklersbury, City, a locality noted in regard to Dentistry, owing to the large practice there carried on by the celebrated Mr. Fox. He afterwards removed to New Broad Street, where for many years he had a large and select practice. His gentlemanly bearing, his kind sympathetic manner, and the confidence he inspired in his patients' greatly attached him to them, as we have been informed by those who knew him well. Yet, as an operator, it is doubtful whether he at all surpassed the average even of his own day. In some respects he even failed to keep progress with the times, not only extolling the key instrument after it had been discarded by many, but even asserting that it was impossible to remove certain teeth without it. On the other hand, the profession is indebted to him for the introduction of the elevator, for though, no doubt, many had employed sharp-pointed steel instruments, the single blade of forceps, &c., for pushing or prizing teeth out of their sockets, the instrument in a scientific and useful form was first made known to the profession by Mr. Bell.

As a scientific practitioner, Mr. Bell was undoubtedly in his day at the head of the profession, and his work on the "Anatomy and Diseases of the Teeth," was a deeper and more useful treatise on the subject than any that had preceded it. The work is still so well known and read that we need not further refer to it, except to remark that it was the last of importance to insist strongly on what has been termed the "vital theory" of caries: the author defined the disease as "mortification of any part of a tooth, producing a gradual decomposition of its substance." To the term caries he took strong exception, as having no analogy to caries in bone, and substituted the term "gangrene of teeth," "the proximate cause of which is inflammation;" which theory, it must be admitted, recent investigations, viz., those of Hertzmann and Bodecker, are tending again to bring into the foreground as con-

trusted with the purely chemical view which latterly has been in the ascendancy.

Independently of his literary works in his own speciality, Mr. Bell was likewise the author of the following: "A Monograph of the Fossil Malacostracous Crustacea of Great Britain," "Natural History of British Mammalia," "Natural History of British Reptiles," "History of British Crustacea," "A Monograph of the Testudinata," besides numerous contributions to the Royal, Linnæan, Geological, and Zoological Societies. He also published, in 1878, a new edition, in two volumes, with numerous additional letters and a memoir, of Gilbert White's "Natural History and Antiquities of Selborne." That his works were valued and appreciated is evidenced by the distinctions conferred upon him. In 1815 he was elected a Fellow of the Linnæan Society, in 1817 he was elected a Fellow of the Geological Society, in 1821 he was elected a Fellow of the Royal Society, and he was Secretary of the same from 1848 until 1853; was President of the Royal Society from its institution until 1859; President of the Linnæan Society from 1853 till 1861; was elected a Fellow of the Royal College of Surgeons in 1844, was appointed a Member of the Board of Examiners in Dental Surgery at the time of its establishment; and was elected an Honorary Member of the Odontological Society in 1862. In addition to these and other numerous recognitions in his own country, Mr. Bell also received the following foreign compliments, viz., Corresponding Member of the Academy of Sciences, Philadelphia, of the Natural History Society of Boston, of the Société d'Histoire Naturelle of Paris, and other scientific societies; with a very few other English celebrities, viz., Babbage, Bowering, Faraday, Herschel, Macaulay, Overstone, Rawlinson, and Watts, of the British Museum, he was elected a Member of the Hungarian Academy of Sciences in 1858. Of one possessed of such a roll of honours our speciality may indeed feel proud, and although it is hardly to be expected we can boast one such in each ensuing

century, we trust so high an example may not be without many imitators.

In what may be termed the politics of our body, Mr. Bell never took a very prominent part. At the foundation of the Odontological he expressed his conviction, which he consistently maintained through life, that every Dental practitioner should be a Surgeon as well as a Dentist. He, however, but somewhat reluctantly, entered into the Dental Diploma movement, and consented to become a Member of the Board of Examiners, which, it must be admitted, he filled with much dignity and satisfaction to all concerned. Several years back he retired from his practice at New Broad Street, where he has been worthily represented by his nephew and associate for many years, Mr. James Salter, F.R.S. Since and previous to his retirement, he resided at Selborne, Hants, at The Wakes, the house of the celebrated naturalist, Gilbert White, where he devoted much of his time to literary and scientific pursuits. If the life of this eminent man points to one example higher than another, it is to the great value which the study of science brings to every man devoting himself to a profession.

G. W. RUTTERFORD.

We regret to record the death of Mr. G. W. Rutterford, of Poland Street, which took place on the 10th ult. For some time before his death Mr. Rutterford was compelled, from failing health, to retire from active business, and at the age of 52 he succumbed to an attack of congestion of the lungs.

Correspondence,

We do not hold ourselves responsible for the views expressed by our Correspondents.

We have received the following for publication:—

Holly Lodge, Streatham, S.W.

March 30th, 1880.

To the Secretary of

The Association of Surgeons Practising Dental Surgery.

DEAR SIR,—With much regret I beg to tender my resignation as a Fellow of the Association. So long as the body existed chiefly as a Scientific Society, and one which by its rules encouraged the Dental practitioner to obtain, in addition to other qualifications, a Medical or Surgical diploma, it had my utmost sympathy, but now that it sets itself to demolish, in my opinion, the best measure, both for the general public at once and the practitioner hereafter, that has ever been effected in regard to Dental Surgery, that sympathy ceases to exist. I do not consider the Dental Practitioners' Act a perfect measure, but the matters I disagree with are far too trivial in importance to allow me to join in any movement that might imperil its existence.

I remain, dear Sir, yours very truly,

ALFRED COLEMAN.

To J. Hamilton Cragie, Esq.

TO THE EDITOR OF THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

SIR,—I am now sending a copy of the enclosed letter to the Licentiates in Dental Surgery who have not joined the Association. As, however, the whole matter is equally applicable to those who are legally on the Dentists' Register, I ask you to give it a place in your journal.

Obediently yours,

JAMES SMITH TURNER

BRITISH DENTAL ASSOCIATION.

40, LEICESTER SQUARE, W.C.

April, 1880.

DEAR SIR,

May I ask your serious attention to the published address of the Chairman of the Association of Surgeons Practising

Dentistry, and also to the memorial presented by that Association to the General Council of Medical Education, praying for the amendment or total repeal of the Dentists' Act.

In those two documents you will see that the hostility always entertained by that body towards the Dentists' Act is as pronounced as ever, and that their endeavours to deprive all but the holders of a Medical or Surgical Diploma of the right to use the title of Surgeon Dentist is being prosecuted with unabated activity.

The British Dental Association has been established to carry out the provisions of the Dentists' Act, and to protect the profession in the enjoyment of its privileges, it would thus appear that it is more especially entitled to the support of the Licentiates in Dental Surgery, whose hard-earned rights are so directly assailed.

I trust, therefore, that in common prudence you will consider it your duty to strengthen the hands of the British Dental Association by becoming a member thereof, and if you have not a declaration paper I shall be most happy to send you one on application.

I am, dear Sir,

Yours very truly,

JAMES SMITH TURNER,

Hon. Sec. B. D. A.

THE RELATIONS OF DENTISTRY TO SURGERY.

(From the British Medical Journal).

"SIR—Mr. Cattlin, in the address which appeared in the Journal for March 6th, made use of my name in connection with the Dentist's Act in a manner which leaves me but little choice as to a reply. I hope you will allow me, by the relation of facts, to rebut the charges which I think Mr. Cattlin would have hesitated to lay at my door, had he known all the circumstances attending the passing of the Dentists' Act.

"I will first take the allegation of 'hasty legislation'. Prior to its introduction by Sir John Lubbock, a draft of the Dentists' Bill was sent (November 2nd, 1877) to and approved by the Royal Colleges of Surgeons of England and of Ireland, and the Faculty of Physicians and Surgeons of Glasgow. The Royal College of Surgeons of Edinburgh approved the Bill, subject to certain amendments, many of which were made; and the College has acted upon the powers given by the Act. The Bill was submitted in November 1877 to the President and members of the Medical Council, which subsequently, in considering the dental sections of the Lord President's Medical Bill, recommended that certain clauses from the Dental Bill should take the place of one or other of the dental clauses of the Government Bill. On June 8th, 1878, the Parliamentary Bills Committee of the British Medical Association, after hearing advocates for and against the Bill, resolved 'that this Committee approves the Dental Practitioners' Bill as now amended'. Eleven hundred and fifty dental

practitioners petitioned Parliament to pass the Dentists' Bill. Included in the foregoing number were seventy qualified medical practitioners practising dental surgery. Subsequently, sixty-eight qualified surgeons or physicians practising dental surgery memorialised individually the members of the House of Commons in support of the 'Dental Practitioners' Bill, which has been considered with very great care', &c. The Bill, when in Parliament, was more than once printed in each of the dental journals. The views of a committee of the Association of Surgeons practising Dental Surgery were not less extensively circulated. Surely, after this amount of consideration and subsequent approval by the surgical corporations and other medical bodies, and by the dentists themselves, the passing of the Act cannot be justly described as the result of 'hasty legislation'.

"Then Mr. Cattlin says that 'the Dentists' Register separated dentistry from surgery'. Before the passing of the Dentists' Act, not one dental practitioner in five—or, as it would now appear, scarcely one in ten—had received any medical education or had any connection with the medical profession. Dentistry was an outlying and uncontrolled branch of general surgery. The Dentists' Act places the dentist absolutely under the control of the medical authorities. His education, his examination, and his registration, one and all, are governed by the General Medical Council and the surgical corporations; and if the conjoint scheme come into operation, it will by the terms of the Dentists' Act, apply equally to the education of medical and of dental practitioners. Can anything be more strange than to say that this very close association is "a separation of Dentistry from surgery," and in face, too, of the fact that the connection hitherto was voluntary and accepted by not one fifth of the *bonâ fide* practitioners.

"The next point urged by Mr. Cattlin is that a person should be a surgeon first and then a dentist. The paragraph in which this opinion is embodied is too long for verbal quotation. It may be put in other words—That the education of the dental surgeon shall exceed by two years the education of the general surgeon. For it has been conclusively shown that the medical and dental curricula cannot rightly be included in the same four years. Almost all the dental practitioners who have been publicly engaged in teaching dental surgery, to the number of fifty (twenty-nine of whom held registrable medical qualifications), signed a memorial to the Medical Council, declaring 'that, in our opinion, the requirements of the dental curriculum originated by the Royal College of Surgeons of England are not in any respect in excess of the educational necessities of the dental practitioner'. This curriculum, in its nature three-fifths medical and two-fifths dental or special, has been approved by the Medical Council and is adopted by the four surgical corporations which grant dental qualifications. It requires that of the four years to be devoted to professional studies two shall be given to dental hospital practice; practically, that the mornings of two years

shall be devoted to one part of the required technical knowledge—the acquirement, under competent teachers, of manipulative skill in operating upon the teeth, &c., and it cannot be rightly contended by competent practitioners that less time will suffice. It is admitted on all hands that the four years allotted to medical education, if well employed, are not more than sufficient for the attainment of the knowledge requisite to competence; and if this time be not well employed, failure must be the result at the examination-table, even to the extent of a fourth, sometimes a third, of the candidates for diplomas. How, then, can another subject which takes two years of special study for its acquirement, be thrust into the more than occupied four years of medical education? If it be thus thrust in, the general or the special education must be neglected; and to use the words of the President of Harvard University, when treating of the acquirement of a medical and a dental diploma within the same three years, ‘one or other of the degrees is lowered to a deplorable extent’.

“Now, is it reasonable to require of the dental practitioner a higher degree of professional education than is required of the medical practitioner? Yet this condition would be enforced if the two qualifications are to be honestly gained. Would it be possible to enforce this unreasonable educational cost in time and money upon each of those who will be required to fill up the life-waste of the existing three or four thousand dental practitioners? Surely not. We have nothing to do with the exceptional few who are favoured by unusual talent or pecuniary resources. If too little be asked of them, they can distinguish themselves by adding more. The necessary medical and dental knowledge may be required of the rank and file, and the dental licentiateship provides this, concerning which qualification I may be allowed to quote from Professor Erichsen’s admirable address on dental education, wherein he says (*British Journal of Dental Science*, August 1879, p. 421): ‘The examination which is required by the College of Surgeons embraces all those scientific and practical subjects which it is necessary for the dentist to know; and although many dentists go beyond this, and take the membership and even the fellowship of the College of Surgeons, I can scarcely look upon such an extension of professional study as being necessary to the great body of your profession. In fact, in order to obtain the membership of the College of Surgeons, it would be necessary for the dental student to acquire an amount of technical surgical knowledge which he knows will be useless, and which he intends to throw aside, and to forget as soon as he possibly can after he has obtained the diploma for which alone he has sought to acquire it. I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it.’

“In truth, the person licensed to practise dental surgery is and must ever be the dental surgeon; and if he add to his licentiateship a general qualification, he will be the surgeon and dentist. The one term indi-

cates a special surgical education, the other a general surgical qualification to which a special qualification has been added. The distinction between the two titles is clear and sufficient. Bearing in mind that the question of title with a full knowledge of the subject has been twice considered and determined by the General Medical Council, once by the Parliamentary Bills Committee of the British Medical Association, by Parliament when the Dentists' Bill was in Committee, and by the surgical corporations in the wording of their respective dental diplomas, I would ask, Is it, in the supposed interest of a limited number of persons, wise to prolong a struggle for the purpose of perverting the use of language to the extent of declaring that a person licensed to practise dental surgery, is not, when in the practice of his calling, a dental surgeon? The many will not accept wrong at the hands of the few; and the expenditure of energy in the cultivation of useless professional discord is greatly to be deplored.

"Mr. Cattlin's objection to registration seems by no means general, for a very large number of those dentists who hold medical qualifications appear in the columns of the *Dentists' Register*, sometimes associated with the words 'in practice with surgery, or medicine'; sometimes without this distinctive notification.

"I have no concern with Mr. Cattlin's dream-born scheme of a new edition of dental reform. My purpose has been to show that the course pursued by the party with which I have acted, has been from first to last (throughout a period of over twenty years) consistent with common sense, common justice, and the interest of the public; and that it has been actively supported by the great majority of those dental practitioners—with and without medical qualification—who have taken any part for or against the consolidation of our calling into a recognised branch of the medical profession; furthermore, that, in preference to adopting any fanciful scheme of professional grandeur, a measure was attempted capable of being carried into effect. In the draft of our Bill, the lines of the Medical Act of 1858 were followed in respect to both education and registration, and amendments were introduced by the Government rendering the Dentists' Act conformable with any future Medical Act. If as alleged by Mr. Cattlin, harm has been done to some of my professional brethren by the course I have followed, the injury has certainly been self-inflicted, and is the inevitable consequence of their unwillingness to accept the ruling of competent and independent tribunals, and of the great majority of their fellow practitioners.

"I regret having occupied so much valuable space upon this time-worn and very thread-bare subject, but I could not, in justice to those I have represented, or to myself, remain silent under so grave an accusation as that preferred against me by my old friend Mr. Cattlin.—I remain, your obedient servant,

"Caterham, March 9th, 1880.

"JOHN TOMES."

Fox Testimonial Fund.

The following has been received from the Treasurer of the Fund :—

In compliance with numerous requests, the Committee have to announce that the list will positively close on Saturday, May 1st.

The claims of Mr. Charles James Fox to some recognition from the Members of his profession for his persistent advocacy of their cause, in the pages of the *British Journal of Dental Science*, dates back for a considerable period.

It will be within the recollection of many, that in a paper "On the Position of Dental Surgery as a Profession," read by him before the Members of the Odontological Society, November 7th, 1870, he urged the adoption of REGISTRATION AND COMPULSORY EDUCATION as a means of ameliorating the unsatisfactory condition of the profession. [See *British Journal of Dental Science*, Vol. 13, 1870, p. 575.]

In 1875, August 31st, he presided as Chairman over a meeting held in Manchester, at which was inaugurated the Dental Reform Movement, having for its watchwords "Registration and Compulsory Education."

This movement, as is well known, has been brought to a successful issue through the persevering energy and tact displayed by Messrs. Tomes and Turner.

The Dentists Act, securing registration and compulsory education for future Members of the profession, has passed into law.

A desire not to militate against the interests of the Tomes and Turner Testimonial Fund, an object having special claims upon the profession, has induced the promoters of the present undertaking to postpone until now, any reference to the claims of Mr. Fox.

A hearty response has been the result. Subscriptions have already been paid into the Dental depôts and their branches, all of which have signified their willingness to co-operate with the Committee. Contributions to the Fox Testimonial Fund may also be lodged to the account of the Hon. Treasurer at Twining's Bank, 215, Strand, London, not later than May 1st, after which the accounts will be made up and a complete list of subscriptions advertised in the *British Journal of Dental Science*.

The following have been received :—

Abel, Alfred, Harrogate	£1	1	0	Manton, J. N.	1	1	0
Ashworth, Henry, Molyneux, Brow Station...	0	5	0	Margetson, W., Dewsbury	2	2	0
Coleman, Hyde, Manchester	0	10	6	Margetson, W.E., Dewsbury	2	2	0
Dennant, John, Brighton	2	2	0	Melrose, Edwin, Bolton	1	1	0
Everall, Frank, Manchester	0	10	6	Nichol, W. H., Leeds...	0	10	6
Foulds, J. J., Farnsworth	0	5	0	Pedley, George, London	1	1	0
Foulds, R., Bolton	0	5	0	Poundall, W. L., Brighn.	0	10	6
Gaitskell, Jas., Gosforth	0	5	0	Rogers, Thomas, London	2	2	0
Huet, F. A., Manchester	5	5	0	Saunders, Edwin, ditto	10	10	0
Jamieson, W. and J. London ..	1	1	0	Saunders, J. R. ditto	1	1	0
Kyan, J. H., Preston ...	5	5	0	Wallace, Jas., Glasgow	5	0	0
Lindsey, J. B., Dover...	1	1	0	Wardell, Wm., Luton...	1	1	0
				Wright, F., London.....	1	0	0

<i>Per Dental Review.</i>				H. C. Corke.....	0	5	0
James Parkinson	2	2	0	<i>Per Messrs. Smale.</i>			
C. S. Tomes.....	2	2	0	Charles West	1	1	0
A. Coleman	2	2	0	<i>Per the Dental Manufacturing</i>			
H. Moon	2	2	0	<i>Company.</i>			
J. Tomes	2	2	0	H. F. Partridge, London.	1	1	0
W. Turner	2	2	0	F. J. Vanderpant, King-			
Dr. Walker	5	5	0	ston.	1	1	0
<i>Per Messrs. Ash & Son.</i>				J. S. Crapper, Hanley...	1	1	0
J. Hinds, Coventry	1	1	0	— Miller, London	0	10	6
J. Townend, Manning-				Henrich Stapfer, ditto.	0	10	6
ham	1	1	0	T. Gaddes, ditto.....	0	10	6
D. Gillies, Londonderry	1	1	0	W. Whitehouse, ditto...	0	5	0
R. C. Waller Bey, Cairo	1	0	0	B. Butterworth, Roch-			
W. H. Pearson, Hull ...	0	10	6	dale.	0	10	6
<i>Per G. W. Rutterford.</i>				R. Butterworth, ditto...	0	10	6
C. J. Peacock, Scar-				J. Horrocks, Bolton. ...	0	10	6
borough	1	1	0	— Sherratt, Manchester	0	2	6
G. H. Street.....	1	1	0	E. Greyson, Swinton....	0	2	6
F. G. Bridgman	1	1	0				

Annotations.

DENTAL SURGERY AND PATHOLOGY.

Mr. G. W. Watson, L.D.S., Edin., will commence a course of Lectures on Dental Surgery and Pathology, in the Edinburgh Dental Hospital and School, on May 4th, at eight p.m.

These Lectures qualify for the Royal Colleges of Surgeons, England, Edinburgh, and Ireland, and other Licensing bodies.

SIR JOHN LUBBOCK, BART, F.R.S., L.L.D., &c., &c.

Our readers of whatever class of political opinion will, we are sure, share with us our extreme regret at the result of the contest at Maidstone. Sir John Lubbock has rendered such eminent services in Parliament in regard to all scientific and philanthropic movements, that his being out of it would be a serious national loss; we sincerely trust such will not be the case, and hope to see him returned for some other constituency, and ere long for one of our universities, which we consider him the best fitted to represent. In the meantime we congratulate Maidstone on the notoriety it has attained in refusing to be represented by one of the very highest intellects that adorn our nation.

M. BROCA.

On Thursday the 5th of February, M. Broca was elected a senator. M. Broca has enjoyed an unusually brilliant career in his profession, and has, at a comparatively early age, fifty five, attained to the very highest honours. M. Broca's election to a seat in the senate is an honour which is shared by the profession at large. Professor Robin, whose re-

searches in our own special branch of science are familiar to all of us, and Dr. Théophile Roussel have already attained to this distinction. In Germany the name of Herr Virchow is as familiar to political as it is to scientific ears. In England the highest honours in the Church and the Law involve an influence in the Government of the country; but the profession of Medicine seems at present to regard active politics as somewhat beyond its sphere.

TRAUMATIC SALIVARY FISTULA.

At the February meeting of the Clinical Society of London, Mr. Henry Morris read the notes of a case of a vertical wound of the right cheek about two inches long. On June 28th, saliva was seen trickling from the lower end of this wound, which was all but healed. The patient complained of heat and dryness of the right side of the mouth. A fine catgut bougie was introduced at the oral aperture of Steno's duct, and passed on till it emerged at the wound, the proximal end of the injured salivary duct was found by squeezing the parotid until a little saliva was forced out of the severed duct. Into this the point of the bougie was inserted and pushed onwards for about half an inch. The edges of the wound were then brought together with three hare-lip pins and twisted sutures, and the bougie cut short, so that a short end, not long enough to be caught between the molar teeth, was left protruding into the mouth. The patient could now feel saliva trickling into his mouth. On July the 4th, the bougie came away accidentally; on July the 9th, a little saliva still escaped; cotton wool and collodion were therefore applied over the wound until July 15th. By this date the wound was securely healed, and all the saliva flowed freely into the mouth. The man was retained in the hospital for a few days longer, and was then discharged well. The author recommended this treatment in all cases of fistula of the parotid duct, and also in cases of operation for the removal of tumours of the face where the incision passed through the parotid duct. The bougie might be passed while the patient was still under chloroform.

DEATH FROM SALIVATION.

An inquest was recently held at Okehampton on the body of a child aged five years, alleged to have died from salivation, while being treated for measles. The child was attended by Mr. Waters, and was doing well. After a week's attendance, he found the child suffering from swelling of the face and an increased flow of saliva. He mentioned to the parents his suspicion that the child had been taking mercury unknown to him. The mother admitted that three or four powders had been given by a Mrs. Osborne, a "recognised nurse," who undertook the medical treatment of children. The swelling of the mouth and fauces continued, offensive effluvia were emitted, and several of the teeth dropped out. The child died in the opinion of Mr. Waters from exhaustion, produced

by mercurial salivation. Mr. Northy had corroborated Mr. Water's statements—the child suffered severe salivation, was almost pulseless, and in a state of extreme prostration. The cheeks were swollen and inflamed, the gums absorbed, some front teeth had fallen out, and the lower jaw was in a state of necrosis. The verdict was “*died from measles and other disorders.*”

DR. ROBINSON ON VARIOUS FILLING MATERIALS.

In the December number of the *Cosmos*, Dr. Robinson discusses the relative value of various fillings, and the views of the advocates of the new departure and their opponents. He urges with much reason, that while some teeth have a better chance when filled with amalgam, others do better with gold; that though some teeth will stand malleting, others will not, in short, that teeth vary as much as fillings in their liability to disorganisation. This one would think so self-evident as scarcely to merit demonstration; yet it is shown by the tone of the article that the advocates of various hobbies do require to be reminded that a tooth is a part of a living structure liable to the ravages of disease, and not a mechanical apparatus. Dr. Robinson quotes a statement as uttered by an eminent authority, which, unless it is greatly modified by the context, is strangely at variance with common sense. The statement is this “That *all* fillings that fail in two or three years are grossly defective.” If this be true, the only possible cause of failure must be a deficiency in the filling; but the tooth itself *failed* before it was filled at all, why should not the same tooth which has already shown a tendency to fail, fail again round the filling. If the above sweeping statement be really the opinion of the writer, it must also be his opinion that a tooth cannot fail in itself at all, but requires to be stopped before it can decay, an opinion involving an obvious absurdity. Dr. Robinson concludes his sound and sensible remarks by a “creed,” the 12th clause of which breathes the spirit of the whole paper, namely, that “The best Dentist is he who makes an intelligent selection from all materials and methods—a hobby of none.”

ERRATUM.—In List of contributors, on page 155, for “H. Champion, ditto,” read H. Champion, *Birmingham*, £1 1s.

TO CORRESPONDENTS.

J. H. HEALEY, Sen.—The question raised is purely a legal one.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. III.

MAY, 1880.

VOL. I.

The Dentists' Qualifications.

It may be taken for granted that in Parliament no new legislative measure, dealing with a question of health, that had not for its foundation the good of the public, would have a chance of becoming law.

Provision for a public want, which every year was becoming more urgent, has been made by the Dentists Act of 1878. As a result of this Act, it may fairly be expected that, within a limited number of years, every place of any size in the United Kingdom will have a duly qualified Practitioner of Dental Surgery, and the public will have such guarantee as the possession of a Diploma can give, that the Practitioner in their neighbourhood has passed through a course of study which will qualify him for the work he professes, and by the skilful and honourable performance of which so much acute suffering and ill-health in the community may be averted.

It is argued by some that a qualification in General Surgery should be held by such a Practitioner, which means—as stated in our Article last month—that the length of Curriculum through which the intending Dental Surgeon would have to pass, would equal that of the man who has the ambition to become a Consulting Physician or Surgeon; and naturally men, who could afford to expend this amount of time, have not been forthcoming in sufficient number for the public requirement.

Every intending Dentist, who has the time and the means, should undoubtedly obtain the double qualification, as the more extended opportunities of observation of Surgico-dental cases at a general Hospital would alone well repay him for the additional time spent there, and together with the study of the various Diatheses, of nervous affections, and of general Pathology, will stand him in good stead in his future practice, and will be certainly wanted by him, if he aims at holding the post of Dental-Surgeon to a metropolitan general Hospital, or at becoming a teacher and leader in his own branch of surgery. It is beyond reasonable doubt that the man who has worked truly for a general, as well as a special qualification in surgery, will find the mental training he has thereby obtained of great advantage in his future career. While in the Dental Surgeon, absence of thorough manipulative skill—more easy of acquisition at an early age—will render his life's work unsatisfactory to himself and of small benefit to his patients, it may be advantageously remembered, that, when once settled in practice, although he may, up to a certain point, continue to perfect his operative power, he will—unless an exceptional man with exceptional opportunities—have small chance of enlarging his practical knowledge in that wide range of professional subjects which must form a large part of the scientific basis of his work.

Firmly impressed with these truths, and knowing that the possession of the highest surgical or medical qualifications affords no guarantee whatever that the possessor knows practically anything about the treatment of the teeth, or is capable of preventing all the ills that may follow in their train, many of the Surgeons who supported the Dental Reform movement, while they have steadfastly held that the thing of *prime* importance for the "Dental

Practitioner of the Future," should be the possession of the L.D.S., agreed long before the passing of the Act—that it would be most advantageous if the several Examining Bodies would encourage and offer facilities to those existing practitioners, who, holding a single, desire to obtain a double qualification. It is considered that this might be fairly accomplished if the several Colleges of Surgeons would of their grace shorten—in as far as it is common to both—the curriculum required for the L.D.S., to men holding a general qualification such as the M.R.C.S.; and, on the other hand, permit the lectures already attended by Licentiates in Dental Surgery, to count as part of the curriculum required for obtaining the membership of the College, providing that such holders of the L.D.S. pass the preliminary examination in Arts now necessary for either qualification.

It should be generally known that a man now commencing his professional studies by registering himself at first as both a medical and a dental student, is enabled to count for either diploma the studies common to both.

Henceforth.

IN a recent number of this journal under the title of "Then and Now," we endeavoured to take a calm, comprehensive, and dispassionate view of the past and present position of the Dental profession; and we trust that our readers will acquit us of having consciously betrayed any bias towards either of the two parties into which the profession has unhappily drifted. For while we do not shrink from declaring our conviction that what has been done (culminating in the formation of the much needed Dental Association), is at once the most direct as well as the most comprehensive scheme for the advancement of

the interests of the profession ; yet we by no means claim a monopoly of the virtues, nor do we desire to ignore the lofty aims by which those have been inspired from whom we have felt ourselves compelled to differ. If the important measure which, thanks to the energy and sagacity of those who charged themselves with its safe conduct, was passed the year before last, has for the present in some respects failed to fulfil the not unreasonable expectations of those whom it was intended to benefit, it has at least laid the foundation of a better state of things in the future. And, all short comings notwithstanding, it has the merit of comprehensiveness and of providing a duly qualified class of practitioners, not for the privileged and wealthy alone, but (like the medical profession) for all grades of the community. In thus fencing it round with these safeguards, it has delivered the profession from an opprobrium which, with too much justice, was felt to rest upon it, and has thus conferred upon it a passport to public estimation. That a measure so far-reaching and all-embracing should not commend itself to the favour of those who, ignoring the needs of the many, have set before themselves a high ideal, attainable only by the favoured few, should neither be a matter of surprise nor disappointment. Nor will it prevent the full and free discussion of the subject in all its bearings in our pages. Though in a sense the organ of the British Dental Association, our journal is also in a still larger sense the organ of the profession ; terms, which we fervently hope, in the interests of peace and of the common good, will ere long be convertible. A hope which is justified by the fact that as the objects of the Association become better understood, applications for membership become increasingly frequent, a large accession having been received since our last issue. And we beg to assure our readers that it will be quite in accordance with the

rules laid down for the conduct of this journal, that all subjects of interest to the profession shall receive full and fair treatment, not from one only, but from all the various points of view in which they may present themselves to various minds. It may be thought a truism to speak of the diversities of mind as being co-extensive with those of feature and person, but it is nevertheless a fact of which we all require to be constantly reminded, and one of which we are sincerely desirous not to lose sight.

It will be our aim, as far as possible, to make the editorial function impersonal and impartial, and to encourage the free expression of all shades of opinion on matters of interest to the profession, subject only to the limitation of honesty and truth, and abstention from all personality or intentional misrepresentation. Next to compulsory education and registration, which are in fact the precedents of its foundation, the great hope of the future in reference to the profession would appear to be the formation of The British Dental Association, which may be regarded as a sort of House of Commons, which at its meetings and by its journal may originate or discuss projects or rules for professional guidance, determine questions of inter-professional ethics, and concert measures for the general good.

The want of such a means of communication, which is quite outside the scope and objects of the Odontological or any other society, has long been felt; and we trust that all will acknowledge without stint or hesitation the value of the efforts now made in this behalf; and by their prompt and cordial support, enrolling themselves as members without delay, will place the success of the organization beyond all doubt.

Variations in the Teeth of the Carnivora,

AS ILLUSTRATED BY THE COLLECTION IN THE MUSEUM OF THE
ROYAL COLLEGE OF SURGEONS, ENGLAND.

By J. G. GARSON, M.D.

THE Carnivora, so-called from the majority of the animals belonging to it living chiefly upon flesh, are divided into two great groups, the first of which is composed of animals spending the greater part of their existence in the water, the other of terrestrial animals. The former are called pinnipedial, the latter fissipedial Carnivora. The skeletal structure of the two groups varies considerably, that of the pinnipediae being adapted to their aquatic life, while the fissipediae are constructed in a form suitable for terrestrial life. As might naturally be expected, the teeth, as well as the other parts of the body, of these two groups, also vary considerably. The teeth of the pinnipediae are modified in form so as to render them suitable for the prehension and mastication of fish and other aquatic creatures upon which they live. They indeed possess the most specialised teeth of all the Carnivora. We do not, however, intend to go into the consideration of the teeth of this group in the present instance, but will confine our observation to those of some of the fissipidae. This is a much larger group than the former, and contains many well known animals. It is divided into the *Æluroidea*, the *Cynoidea*, and the *Arctoidea*; of these, the first is the highest and most specialised form, and comprises the animals of the cat tribe (*Felidae*), the civets (*Viverridae*), and the hyænas (*Hyænidæ*), and two smaller families, the *Cryptoprocta* and *Protelidæ*. The dentition of the whole group, and indeed of all the fissipedial carnivora is similar in the number of incisors and canines which they possess, namely three of the former, and one of the latter, on each side of the jaw and in the upper and lower jaws. It is only in the number of premolars and molars that variations occur. These may vary in number, not only in different genera, but in the same genera, and in the upper and lower jaws. The teeth of this series which are the most

liable to vary, are the first and second premolars, and the last or posterior molar. This rule holds good throughout the whole series, whatever the dentition may be.

In the Felidæ the normal dentition is i_3^3 , c_1^1 , p_2^3 , m_1^1 . The number of premolars and molars is less than in most of the other fissipedial carnivora (hence the shortness of the jaws), they are all trenchant, except the last upper molar, which is tuberculated. This formula is very constant in the higher and larger members of the family, such as the lion, the tiger, and the leopard. Out of the large collection of skulls of these animals in the Museum of the Royal College of Surgeons, there is not a single aberrant specimen. But in the smaller animals, we find that variations occur chiefly in the upper jaw. The first premolar is, even in the largest carnivora, comparatively small, compared to the other teeth of the series, consequently when we come to the smaller animals, that tooth is quite rudimentary, and is frequently not developed at all, or lost at an early period. If the jaws of an animal are short, and the teeth closely packed, it not unfrequently occurs that either one of the premolars or the molar is dropped, generally one of the premolars. In the cats the upper molar is placed transversely, and within the back of the sectorial or carnassial tooth, in function therefore it is comparatively unimportant. It frequently happens that a tooth may be absent on one side and present on the other. In the latter case, the corresponding tooth if it be first premolar or upper molar is often feebly developed, but if both be absent, the animal has not improbably lost the tooth some time before death, and the socket become obliterated. Of the absence of the first upper premolar, the museum contains several examples in this family. Amongst others, may be mentioned the skull of a clouded tiger (*Felis macrocelis*), an animal smaller than a leopard, found in Assam; of a serval (*Felis serval*), a caracal, and a European lynx. There are few examples, however, in this family, of absence of the p_2 , as it only occurs in three, out of a large number of specimens, one of these is in a cat (*Felis catus*), where

it is absent on both sides of the upper jaw. In this case the probability is that the tooth has never been developed. The other two examples are in two skulls of the Cheetah (*Felis jubata*). In one of these it is absent on the left side, and quite rudimentary on the right, which would indicate that there is a defective development. In the other cheetah's skull it is only absent on the right side, while the corresponding tooth on the left side is normal, an occurrence which would lead to the supposition that through some mishap the animal has lost the right p_2 during life, its socket become filled up, by the approximation of the lateral premolars and thus the gap to some extent filled up. Partial arrest in development of a tooth is not unfrequently met with. A curious example of this is to be seen in a skull of a cynelurus, in which the inner tubercle of the upper sectorial is nearly obsolete, though the root is present. Rarely, a supernumerary tooth may be developed. Of this there is one example in the Felidæ, in the skull of a cat, in which there is a reduplication of the third upper premolar on the left side. The supernumerary tooth is situated internally, and partly posteriorly to p_3 , and in appearance exactly resembles that tooth.

In the remaining families of the *Æluroidea*, namely, the *Cryptoprocta*, *Viverridæ*, and *Hyoenidæ*, the number of teeth in the molar series is greater than in the *Felidæ*, the *Protelidæ* being the only exception. *Cryptoprocta* is a family intermediate between the *Felidæ* and the *Viverridæ*, the teeth of which are decidedly more feline than viverrine in character, but differ from the former in number. The dentition of this family is $i_3^3 c_1^1 p_4^4 m_1^1$. The number of specimens of this animal is exceedingly limited, and therefore little is known about the variations of its dentition. In the number of its premolars it corresponds to the *Viverridæ*, but it only possesses one molar in each jaw, which is the same as in the *Felidæ*.

The *Viverridæ*, or civets, possess the same dentition as the last family, with this exception, that in the former there is an additional molar on each side, the dentition

is therefore i_3^3 , c_1^1 , p_4^4 , m_2^2 . In this family there is a great tendency for the number of premolars of the lower jaw to vary. Three premolars are almost as frequently found as four. The first premolar is often very feebly developed, so much so, that on looking superficially at the skulls of some of the smaller members of the family, it might be thought that there were only three premolars, but more careful examination often shows that the first is extremely feebly developed, so as to appear in some cases only as a mere speck. The last molar, m_2 , is occasionally absent or very small, but there are no examples in the museum of the first ever being absent. This latter is always well developed, with a flat surface. The Viverridæ are not, as a rule, very carnivorous animals, and several of them live almost exclusively on fruits and eggs, hence their teeth are not so sharp and pointed as those of the cats. The deviation from the normal dentition in this group to be found in the museum is chiefly that occasionally the last upper molar, is wanting. In some specimens this tooth is absent on both sides of the upper jaw, but more frequently only on one side. When wanting on one side only, the corresponding tooth on the other side may be of the ordinary size, or only feebly developed; this latter condition is well seen in the skull of a *Nandinia binotata*. The lower molars seem to be very regular, and always to be present. There are comparatively few examples of absence of the first molar, unless the cases where there are only three premolars in the upper and lower jaws are included as abnormalities, but this being the distinguishing feature of some of the genera of the family, it must be rather considered as a normal peculiarity of the genera in which it occurs. In the *Binturong*, a member of this family, the dentition seems to vary considerably, as in one specimen it is i_3^3 , c_1^1 , p_3^4 , m_1^2 , and in another, i_3^3 , c_1^1 , p_4^4 , m_2^2 . The jaws of the first specimen are shorter than those of the second, and it will be observed, that the number of teeth in the upper and lower jaws are exactly equal in the former, there being only one molar in the upper jaw,

while there are four premolars and two molars in the lower jaw where there are only three premolars.

The most aberrant of all the families of the *Æluroidea*, are the *Protelidæ*, which contains only one known genus, *Proteles*, or the Aard-wolf, so called from its being for a long time considered to belong to the *Canidæ*, and classified amongst them. Its dentition is i_3^3 , c_1^1 , p_3^3 , m_0^0 . All the premolars are single and very stunted. The incisors and canines are fairly developed. The peculiarity of the animal lies in the extremely feeble development of its molar series. This is explained by the mode of life which it leads, as it lives chiefly on putrid flesh and on the semi-fluid fat in the tails of the Cape sheep which it is said to attack. For such food, incisors are the most important. It always happens that when an organ or structure is not required by nature, it, after a time, becomes feebly developed or suppressed altogether. This is probably the explanation of the aborted state of the premolars, and the disappearance of the molars in this creature.

The last family of the *Æluroidea* is the *Hycenidæ*. They are a well-known group, possessing the following dentition; i_3^3 , c_1^1 , p_3^4 , m_1^1 . Generally speaking the teeth may be said to be pyramidal in shape, therefore very powerful to break up bones upon which the animal chiefly feeds, and not very apt to get broken or injured, as would necessarily be the case were they like those of other carnivora. The *Hycenas* being larger animals, variations in their dentition do not seem to be common, as out of a number of skulls of the three varieties, namely, the spotted, the brown and the striped *hycenas*, there is only one, that of a brown *hycena*, which presents an abnormality. In this specimen the upper molars are wanting. They have, probably been lost by disease, as the animal lived for some time in the gardens of the Zoological Society, and most of its bones are considerably diseased.

Neuralgia.

By ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.Eng.

(Continued from page 174.)

Sometimes, however, Neuralgia resists all therapeutic treatment, in the which case two operative proceedings have been largely employed with varying success, neurotomy, or cutting the affected nerve, and stretching it.

Before alluding to the results of neurotomy, it will be interesting to notice briefly some experiments of Dr. T. Gluck's upon the Regeneration of Nerves, published in *Virchow's Archives* for 1878.

When a nerve is divided, the first change is retraction of the sheath, the cut ends are bathed in myelin, and blood is effused between the surfaces of the wound. In a few days gray translucent tissue is found connecting the cut ends. The minute changes are as follows:—In twenty-four hours or so, spindle cells, arranged in series, surrounded by an abundant intercellular material, lie between the two ends. After eight days the ends are connected by nerve fibres destitute of myelin, and from that time there is a gradual formation of the myelin sheath, the protoplasm becoming darker, and more and more capable of staining with osmic acid. No degeneration is visible in the central end, some slight degeneration in the peripheral end. The nuclei of neurilemma multiply until about the sixth day. This is a simple union by first intention. If a piece, a centimetre long, is removed the union takes place by granulation. In the case of a larger piece, Gluck did not succeed in obtaining any union at all. The union of the axis cylinder is effected by peculiar fusiform cells resembling ganglion cells. The processes of these cells are filled with protoplasm, at first granular, then homogeneous, and finally differentiated into medulla and axis cylinder. The nuclei become paler, and the cell membrane ceases to represent the sheath of the new fibres. This union does not differ from the mode of formation of nerve fibres in the embryo as observed by Kölliker. It is plain from these observations that temporary relief may be obtained from division of the nerve, and that if a large enough piece be cut out permanent relief will be

the result. M. Létievant has written a long memoir upon the operation of neurotomy, and has given the notes of innumerable cases—almost every nerve in the body has been divided. In the chapter on the trigeminal nerve alone he gives fifty-five cases of division of various branches of the second and third divisions of the fifth pair, performed by eminent surgeons in France and Germany. Of these, thirty-six resulted in cures, that is, there had been no return of pain, and only a very slight return during a period varying from nine years to a few months—of these, two were divisions of the lingual, three of the inferior dental, and the rest of the infra orbital superior maxillary. Thirteen other cases failed more or less, five were doubtful and one died. The whole tendency of M. Létievant's enormous accumulation of evidence is to place neurotomy on the footing of a classical operation. In the *Gazette Hebdomadaire* for August, 1875, there is a memoir on the division of nerves in Neuralgia, submitted to the Medical section of the French Association by MM. Arloing and Trippier. In this memoir it is urged that the existence of *recurrent sensibility* in all nerves, motor or sensory, has been greatly overlooked. There are recurrent fibres which are more numerous as the nerve approaches its periphery and decrease in number towards the trunk. These fibres do not end in the nerve bundles, and as they must have some kind of ending it is suggested that they may end in the adjacent tissues. There may also be a communication between the peripheries of the nerves, which would explain the phenomenon, that irritation of the periphery of one branch sometimes causes pain at the periphery of another. MM. Arloing and Trippier lay great stress upon the fact that the operator ought to be guided as to the site of his incision by the effects of compression of the nerve, if pressure at a certain point in the trunk ameliorates the pain that point should be chosen for incision.

On a careful investigation, however, of M. Létievant's published results, one thing cannot fail to strike the reader, and that in an enormous number of cases, pain did return

at some time and in some form; moreover, the relief was seldom immediate, a few paroxysms generally followed the operation. Sensation was of course lost entirely in that portion of the surface that was supplied by the divided nerve, and in the case of a mixed nerve, of course, paralysis follows its division, an important consideration; and in cases of neurectomy this loss was of course as permanent as the solution of continuity of the nerve. Healing restored sensation, and, sometimes with it, pain.

Now it is plain that what the surgeon wishes to effect is not ease that is dependant upon the pain-conveying and sense-conveying mechanism being out of gear, this would be like cutting the telegraph wires to avoid bad news coming; if by any operation the disturbed condition of the nerve that gives rise to the pain can be altered, such an operation would be the real radical cure of neuralgia.

During the last few years each volume of the various medical journals of Europe contains one or two cases of complete success in the treatment of Neuralgia by nerve-stretching. The operation is quite simple, consisting in passing a hook round the nerve and pulling with a good strong pull in various directions, replacing the nerve and dressing the wound; the operation ought to be performed under antiseptic conditions. Mr. Johnson Symington made some experiments to discover the power of nerves to bear weights (in the dead subject), the maximum weight was 176 lbs., which weight was sustained by the sciatic of a powerful man, the minimum was 86 lbs. in the case of a consumptive girl, the average, therefore, being about 130 lbs. The *rationale* of the procedure is that it causes some change in a part of the nerve tract extending some distance on each side of the point of traction; if the Neuralgia be due to adhesions it may break them down, if to circulatory conditions it may modify them. M. Blum concluded a very lucid and scientific exposition of the operation (*Archives Générales de Médecine*), by saying that "nerve stretching acts sometimes by freeing the nerve from the surrounding tissues that are compressing it,

but its efficaciousness is due principally to the modification which it brings about in the structure, and above all in the circulation, not only at the spot where the stretching was done, but even at points more or less distant from the wound. Feuilleon (Théré Duvault, Paris, 1876), performed certain experiments which show that if a nerve be stretched sufficiently to deprive a limb of sensation for a day, and examined at the end of a month, the nerve will be found to consist at the periphery of some yielding connective tissue, and a few fat cells, but in the axial portion the fibres will be still intact.

Nerve stretching, M. Blum urges, has *always resulted in success*, it has diminished and finally suppressed the pain, the operation is harmless, it exposes the patient to no danger, either of resulting paralysis or neuromata. M. Blum considers that nerve stretching is indicated in Neuralgia that resists therapeutic treatment, and is clearly limited to a certain nervous tract; when the neighbouring nerves show a tendency to become implicated; whenever there is reason to suspect cicatricial adhesions between the nerve and the surrounding tissues. In Neuralgia affecting stumps. M. Blum gives the results of several cases, nine of stretching done for Neuralgia, one of the patients died from erysipelas, and another from hæmorrhage (purely accidental causes). In eight cases of tetanic spasm, seven were successful, in the eighth the changes in the medulla had gone too far. Three cases are reported in M. Hayem's *Revue des Sciences Médicales*, two by Paul Vogt and one by Peterson; the success was complete and final in all three.

Dr. Macfarlane (*Lancet*, July, 1878) gives an obstinate case of sciatica that yielded completely to nerve stretching. Mr. Chiene related two similar cases in the *Practitioner* (1877), and also alluded to five others in a discussion and the Edin. Med. Chir. Soc., on a paper by Mr. Johnson, Syrington. Mr. Heath, of Manchester Infirmary, had a successful case in 1877 (*Brit. Med. Journ.*). Dr. T. Grainger Stewart, in 1879, read a case before the Border

Counties Branch of the British Medical Association. Two cases are reported under Mr. Charles Higgins at Guy's Hospital (June, 1879). Professor Lister has also performed the operation for sciatica with success. All these cases were attended with amazing success, and the list might be added to almost indefinitely.

A reviewal of the foregoing facts must lead us to the conclusion that we have a very ample choice of remedies at our command when called upon to deal with Neuralgia. Once more, however, in conclusion, I would urge that if the nervous system were less wrought upon at boys' and girls' schools, by the insidious instilling of premature knowledge and premature tastes into youthful minds, much of the neuralgia we have to combat would never have existed.

Ossification of Pulp in Healthy Tooth.

BY MORTON SMALE, M.R.C.S., L.D.S.,

DENTIST TO THE WEST LONDON HOSPITAL.

Mr. M., aged about fifty, having generally good health, came complaining of neuralgia of a very severe character, over right temporal, supra- and infra-orbital regions. On examining the mouth the second right upper bicuspid was found to be decayed on its distal surface, with the pulp exposed. This was dressed with carbolic acid and Tannin under mastic chloroform for several days; the nerve was then covered with blotting paper soaked in carbolic acid, and the cavity filled with "Weston." A cavity in a lower wisdom of the same side was plugged with amalgam. During the time these teeth were under treatment, the neuralgia ceased, but no sooner were they finished than the pain returned with all its former acuteness. Gr. v. doses of quinine gave temporary relief, as did also purgatives or local application of tinct. aconite and iodine, this latter was applied mainly over the root of the plugged bicuspid and a sound upper wisdom tooth. The pain was quite distinct from the teeth that had been filled, and there

were no signs of pulpitis in either the upper bicuspid or the lower wisdom. The patient at this time complained that the upper wisdom seemed to be the cause, that anything cold coming in contact with it would start the pain, but neither this nor any other of the teeth was sensitive to percussion. The quinine treatment and the local application were continued for some few days more without any abatement of the symptoms; by this time the patient declared he was confident this sound upper wisdom was the cause, but a careful examination of it showed neither decay nor wearing by attrition. After some persuasion, he consented to go on for a few days longer, but at the end of that time returned having had no permanent relief during his absence, and insisted on having the tooth removed. At this time I wished to remove the stopping from the bicuspid, to this he would not consent, and after some deliberation the upper wisdom, sound though it was, was removed. On splitting it open a large portion of the pulp was found to be ossified to the top wall of the pulp chamber, which pressed severely on the pulp and accounted for the pain. Immediately after removal the pain vanished, nor has there been any return.

I shall watch this patient to see if there is any atheromatous tendency in any of the small vessels in other parts, for I cannot find any reason why this deposit of secondary dentine should have occurred in a tooth so apparently healthy.

How often may patients suffer from neuralgia from a similar cause, and because the tooth is healthy the symptoms are attributed to other causes? Experience seems to point conclusively, that facial neuralgia is rarely present unless the teeth are the primary cause.

Royal Microscopical Society.

ADDRESS OF THE PRESIDENT, DR. LIONEL S. BEALE, F.R.S.

Feb. 11th, 1880.

From the "Transactions of the Royal Microscopical Society."

*(Continued from page 180.)**Living Matter. Dead Matter.*

Every one here is familiar with the appearance of living matter under the microscope, as seen, for instance, in the colourless, transparent, moving substance of a living *Amœba*; but as some confusion has resulted from the careless use of terms, I shall be obliged, in order to make myself clear, to trouble you with a little criticism as regards the plan adopted by many of naming the things they are describing, and the ingenious device of calling matter in absolutely different and irreconcilable states by the same name. We want to know what life is, and we are told that living matter is only *matter*, and that the same matter in the dead state is also only matter, and this is the only reply from the materialist stand-point vouchsafed to the question "What is life?"

Now the matter that moves is clear and transparent and structureless, and as I long ago showed elsewhere the conclusion is justified that such-like clear transparent structureless moving matter exists in all living organisms from the lowest to the highest at every period of life, in health and in every form of disease. I have, therefore, called it living matter, and have pointed out that every form of it yet discovered differs entirely and absolutely from any form of non-living matter hitherto met with. But again and again this inference has been contradicted, although the arguments long ago advanced in its support remain unanswered and ignored. From time to time slight concessions are made, but it is still maintained, contrary to evidence, that there is a transition from the non-living to the living, and that the chasm separating them, infinite as it is, has in fact been already bridged.

"Living matter" has been called *protoplasm*, but that word has been applied to matter which does not "live," to matter which "grows," and to matter that does not "grow," to matter that produces matter like itself out of that which is unlike, and to matter which cannot do this, to coloured as well as to colourless matter, to matter which is structureless and to matter that has very distinct, definite, and remarkable structure, to matter in which many granules can be seen, and to matter which is destitute of granules,

to the apparently homogeneous living matter seen under the eye to be moving in a manner not to be explained, and the unquestionably very heterogeneous magma dredged from the deep, and artificially preserved, as well as to structures so absolutely dead as roasted mutton and boiled lobster.

The colourless moving matter of the amœba is protoplasm. The active part of a nerve-fibre is protoplasm. Contracting muscle is protoplasm. Dead muscle is protoplasm. Roast and boiled muscle is protoplasm. The green colouring matter of plants is protoplasm. Chlorophyll is a "living substance," says Dr. Allman, and then remarks that chlorophyll contains starch. I conclude, therefore, other colouring matters found in plants must also, according to this view be regarded as protoplasm. Is starch as well as chlorophyll protoplasm? Protoplasm is the basis of physical life and the physical basis of mind. Bathybius is protoplasm. Protoplasm, says Dr. Allman, is essentially *a combination of albuminoid bodies*. Others have maintained that protoplasm has been made directly from non-living matter, nay, is being so found daily and hourly at this very time. Many sanguine persons think that some day protoplasm will be made artificially by the chemist, and if this can only be achieved there will then remain but the discovery of the "conditions" under which this artificial protoplasm will manifest its vital properties, and the "living thing" made by man will be ready for examination in our microscopes.

The President of the British Association, in his address last August gives his cordial support to Huxley's assumptions concerning protoplasm, the "physical basis of life," and remarks that "wherever there is life there is protoplasm; wherever there is protoplasm, there too is life," forgetting that he himself in more than one place speaks of *lifeless matter as protoplasm*, and nowhere distinguishes between the *living substance* and the *lifeless matter* which remains after its death,—forgetting too that roast and boiled muscle and many other forms of non-living matter have been called protoplasm by Huxley and others. Further, we are told that protoplasm is to the biologist what the ether is to the physicist, "*only*" one is a "tangible reality," and the other is a "hypothetical conception." Possibly some scientific men may have of late years dealt too freely in hypothetical conceptions, but the analogy between the latter and tangible realities remains to be discovered.

Bathybius.

I am sure many here will be interested to learn anything that can be added to our knowledge concerning Bathybius which may help them to decide whether it is a tangible reality like protoplasm or a hypothetical conception like the ether. Dr. Allman decides for Bathybius, and remarks "that further arguments against its reality will be needed before a doctrine founded on observations so carefully conducted shall be relegated to the region of confuted hypotheses." Professor Huxley spoke on this matter, but his words were not reassuring. He expressed his sorrow that "his young friend, Bathybius, had not verified the promise of his youth," and his only confidence in August, 1879, in "his young friend," originally evolved in 1867, appeared to be expressed in suggestions concerning the possibility of his being a "blunder" and the probability of its exposure. Professor Huxley seems to forget the effects which this possible blunder produced upon D. F. Strauss and many more who seriously believed in Bathybius, and have since been influenced by Strauss' teachings, founded upon the existence of Bathybius. Professor Huxley asserts Bathybius has not been proved to be a "blunder," but he does not say what in his opinion Bathybius has been proved to be, or whether anything at all has been proved concerning his Bathybius. Dr. Allman, however, solemnly asserts Bathybius, and, paying the highest compliments to Huxley and Hæckel for their "very elaborate investigations," affirms this slime to be "living matter," in which "no law of Morphology has as yet exerted itself." Now upon what Dr. Allman bases his statements is by no means clear. He tells us:—1. That slimy matter dredged up from the Atlantic was *preserved in spirits*. 2. That specimens of this slimy matter were examined and declared to consist of protoplasm. 3. That this protoplasm *must in a living state* extend over wide areas of sea bottom! The matter has further been examined, he says, by Hæckel, who has confirmed all that had been advanced by Huxley, and who is convinced:—1. That the bottom of the open ocean at depths below 5,000 feet is covered *with an enormous mass of living protoplasm*. 2. That this enormous mass of living protoplasm "lingers there in the simplest and most primitive condition, having as yet acquired no definite form." 3. Hæckel suggests that "this enormous mass of living protoplasm *may have originated by spontaneous generation*."

We see that this very wonderful slime, by the exhaustive

examination of Hæckel has been made much more wonderful. Not only is it living protoplasm which "lingers in the simplest and most primitive condition," but it lives upon the inorganic, and "*probably*" originated from it by spontaneous generation. Now, gentlemen, please consider the sort of facts adduced, and the inferences deduced from them. Professor Huxley, speaking upon Dr. Allman's address, remarks "that Bathybius could not be found when he was wanted, and when he was found, all sorts of things were said about him. I shall leave it to your consideration and determination whether Bathybius was not "wanted" before he was found, whether he has actually been found although he has long been "wanted" and has been diligently searched for during many years, and whether many of the things said concerning his origin, existence, properties, and composition, should be accepted as being correct, and based upon actual observation, and, lastly, whether Huxley's "Bathybius Hæckelii" ought or ought not, after a conjectural existence of several years, to be allowed to rest among confuted hypotheses and discarded myths.

Physical Basis—Protoplasm.

It is now generally assumed that all Life is somehow dependent upon the properties of the actual matter that lives; in fact, life is referred to the properties possessed by the particles before they acquired the living state. In short, it is asserted that life is physical or material. Moreover, it is maintained by many physiologists and others, that *all* the phenomena peculiar to living things will some day be adequately accounted for by properties of the atoms or of the matters compounded of them, which properties will be discovered. So that, knowing the properties of the material particles in any special case, we, or rather our successors, or those among them having the right amount of intelligence, are to be able to premise what sort of living power is to be evolved from any given piece of living matter. Living matter, it is said, consists of a *basis, a physical basis*, the changes in which somehow result in life—in fact, a physical basis of physical life. But it is very remarkable that the difference between the physical basis of a living thing and the physical basis of the same thing in the dead state has not been pointed out, or even the possibility of their being any difference at all hinted at.

The physical basis of life argument being accepted, some may perhaps be able to show that a ship is the result of the properties

of the particles of iron which constitute her physical basis; and that the house is a consequence of the interaction of the forces of the particles of clay, wood, iron, &c., of which it has been built. The act of construction or building, as well as the designer, the constructor, and the working artificers being of no consequence, are entirely left out of the account. In the living, it is denied that any force or power exists which directs, or changes, or controls the relation to one another of the material particles, but it is asserted that from these the life is evolved; and though, no doubt, the statement that iron evolved the ship, or that clay, &c., evolved the house, would not be readily accepted as true, it would not be in any degree more absurd or less tenable than the assertion that man is evolved from the matter of which his body is constituted, or that a living particle results from the interaction of the forces of the matter of which it consists.

Properties of Protoplasm.

From the chair of the British Association it was declared only last autumn, that "Life is a property of protoplasm,"—and, that there may be no ambiguity as to the sense in which the word *property* is used, we are further assured that the properties of living matter may be compared with those of lifeless matter, and that there are unmistakeable analogies between vital actions and phenomena purely physical.

Among the "properties" of protoplasm is often mentioned "irritability." What is meant by irritability has, however, never been fully explained by any one. Dr. Allman speaks of it as the "one grand character of all living beings," so that growth, multiplication, movement, nutrition, in short, "life," is considered to be due to this "irritability." But muscular contraction is also said to depend upon the irritability of the "protoplasm" of the muscle. But the protoplasm of muscle is certainly not *living* in the sense that the protoplasm of an amoeba, for instance, is living. The last can grow and multiply by division. The muscle cannot do so. "Irritability" in one case accounts for movements limited as regards direction, and in the other for movements which may occur in any direction whatever. Dr. Allman agrees with those who assert that contractility is a *property* of protoplasm just as attraction is a *property* of the magnet. But here evidently is a radical confusion of various properties, for the "properties" re-

ferred to in the two cases are so distinct in their very nature as not to be comparable with one another. Who will point out the analogy said to exist between contractility and attraction, or between things so diverse as protoplasm and steel? You can demagnetise and remagnetise the same piece of steel. But the cosmic dust has not yet been evolved out of which the material philosopher is to be constructed who will restore to the same piece of matter its "irritability" after its death.

As the phenomena of living things, as generally known and understood appear, to be so very different from anything observed in connection with non-living matter, it is incumbent upon those who see or say that they discover an analogy between living and non-living, to clearly point out the precise facts which according to them establish the analogy. It is not just either to science or to the public or to those who differ from them to repeat over and over again that analogies exist between living things and things that do not live, if the precise points of analogy cannot be pointed out. It is obvious that people generally cannot investigate for themselves the several minute points which may establish a scientific proposition. The public must take much upon trust, and are apt to infer that if a man holding a recognised scientific position asserts that an animal is a machine, and that all its actions are mechanical, he must have very good reasons for laying before them a proposition which seems to be so preposterous that no one would venture to propound it unless he had actually proved it to be true. So, unlearned persons having much faith go their ways, and announce to their friends and neighbours that they, as well as all other animals, are machines. Their own conviction that all machines are made in pieces which are afterwards put together, and that no animal is so made, does not disturb their faith. Authority has spoken. They must believe and not enquire, accept upon trust, but not criticise.

(To be continued.)

On the Behaviour of Plaster of Paris in Setting.

By W. BOWMAN MACLEOD, L.D.S., Edin.

(From the Transactions of the Odonto-Chirurgical Society.)

THE subject of the communication which I have now the honour of laying before this Society is, "On the Behaviour

of Plaster of Paris in Setting." Its intention is to bring under your notice the results of several experiments entered into for the purpose of demonstrating, by practical examples to my class, the minute amount of expansion which takes place during the setting of plaster of Paris, such as we ordinarily use in the laboratory, and which resulted—in so far as I was concerned—in drawing my attention to another characteristic which has hitherto been unsuspected, or if suspected, not sufficiently acknowledged as a factor in dental mechanics. The presence of this peculiarity has, I believe, in many cases, produced faults in modelling and fitting which have been attributed to other causes; and a remedy having been sought for in the wrong direction, has not hitherto been found. I refer to the rocking of plates upon the middle line of the palatine arch, the general misfit of plates, and the opening of the joints in gum blockwork. To prove that plaster expanded, I cast a quantity of it within a square of two feet, the sides of which were enclosed with iron plates three quarters of an inch in depth, and closely fitted together but unattached, supported by angle ties, and retained in position by a piece of cord tied round their outer circumference. The plaster was cast within this area, and as it set sufficiently to hold itself together, the cord was cut, and the mass allowed to crystallise without being bound laterally. On measuring this block the following day, I found that it had increased by $\frac{5}{16}$ ths of an inch in length, and the same in breadth. This being reduced proportionally to the average breadth of the dental arch, would certainly have made very little difference, practically, in the fitting in the majority of cases, being only the $\frac{1}{37}$ th part of an inch of expansion on the average denture. But I found that not only had the plaster expanded, but the upper surface was raised; and on sawing the block through in a diagonal direction, I found that instead of the block lying dead upon the plane beneath, it presented a concave surface towards the plane, the highest point of which measured one half inch. This showed, first of all, that the plaster had not only expanded, but had

done something more than its now greater length and breadth would lead one to suspect; for in thus taking a concave form, it must have either retracted to an equal extent, or expanded in an irregular manner, causing warpage.

Making still further experiments by casting plaster in the ordinary impression cup, I found, invariably, the same result produced, and that the centre portion—the palatine portion—of the cup always presented an open and well-defined space between the upper surface of the impression cup and the lower surface of the hardened plaster. This circumstance, therefore, would produce in your model a fault similar to that resulting from the sucking of the waxy or resinous impression materials, and, as you can readily see, would give you a much higher dome than that of the natural arch. Hence the rocking of the plate, which has hitherto been attributed—if my deductions be justified—to every cause but the right one. Continuing my researches, I found that although in the equal surface and depth of the modelling tray the defect always ran in one direction, yet on pouring the plaster into irregular moulds, such as the impression of the mouth, the position of the point of warpage was not always persistent, but seemed to be controlled by the thickness of the superincumbent layer of plaster, and this led to the conclusion that while in some instances the defect would determine itself on the palatine ridge in the shape of an exaggerated dome, at other times, and that more frequently in under dentures, it would express itself in irregular lateral expansion, and consequent misfit upon the posterior portion of the alveolar ridge. Naturally, then, I began to enquire how this defect might be overcome, and I find that by the addition to the water with which the plaster is mixed, of potash alum (hitherto used entirely for the purpose of quick setting in impression taking), in the proportion of from three to four ounces to the gallon, you will entirely overcome the irregular expansion and consequent warping which takes place in coarse plaster of Paris as used with water alone. But here you have the two blocks of equal dimensions—one cast with

water, and the other with potash alum water. It requires no explanation on my part to point out the difference between the two. In the one case, the expansion is 5-16ths of an inch; warpage, $\frac{1}{2}$ inch. In the other, expansion, *nil*; and warpage, ditto; and the two surfaces, dead. You have here a series of impression cups of various sizes and shapes, filled with plaster, cast with pure or plain water, and with potash alum, and which require but to be examined to convince you of the fact of the deadness of plaster of Paris when treated with potash alum, and its behaviour under ordinary circumstances. The conclusion I draw from this is, that all plaster, either for impression taking or for models, should be cast with potash alum, when strict and definite results are to be obtained; and that in the case of gum block work, that opening of the joints—which has hitherto caused so much trouble to practitioners, and, to a great extent, has prevented the more general adoption its other merits might have commanded, and which has drawn out many suggestions as to the best mode of prevention—the opening of the joints may now be entirely prevented by the use of potash alum for both matrix and model within the flask.

[Solution of Potash Alum for modelling in plaster of Paris has been used by many for years, but the experiments recorded in the foregoing paper justify us in reproducing it here. Alum of commerce, until late years, was prepared, according to the following formula:— $\text{Al}_2 \ 3 \ \text{S} \ \text{O}_4 \ \text{Am}_2 \ \text{S} \ \text{O}_4 \ 24 \ \text{H}_2\text{O}$. Manufacturing chemists are now frequently using $\text{Al}_2 \ 3 \ \text{S} \ \text{O}_4 \ \text{K}_2 \ \text{S} \ \text{O}_4 \ 24\text{H}_2\text{O}$.—*Ed. M.R.D.S.*]

Death from Chloroform.

THE Southampton borough coroner, Mr. E. Coxwell, held an inquest at the Guildhall on the 20th ult., on the body of Mr. Herbert Greenwood, of Sway House, Lymington, whose death occurred while under the influence of chloroform on the previous day. The following evidence was taken:—

Dr. R. Stevens, of Lymington, stated that the deceased was thirty-six years of age, a friend of his, and of independent means. He met the deceased at Southampton on Monday, at Mr. Bromley's, dentist, for the purpose of his having some teeth extracted while under chloroform. On the Thursday previous, witness examined him with the view of ascertaining if chloroform could be safely administered, and he was of opinion that it could be. On Tuesday chloroform was administered by witness at Mr. Bromley's, and under its influence some teeth were extracted. He saw nothing to indicate alarming symptoms until after the extraction of the second or third tooth, when respiration suddenly stopped, as also the action of the heart. From the commencement of inhalation to that time, the deceased had only partially been under the influence of chloroform, and never entirely. He was in the excitable state before insensibility came on. Witness said to Mr. Bromley, "Stop; we must try to get him round again." The deceased was placed on the floor, and they endeavoured to produce artificial respiration, but could not succeed. Before the action of the heart stopped, there was no indication that the chloroform had taken too great an effect. The cause of death was the chloroform paralysing the heart and stopping the action. Mr. Bromley was acting under witness's directions.

In answer to the jury, witness said he had known the deceased about five years. He had been frequently in the habit of administering chloroform, and was conversant with its use. The deceased was a man capable of undergoing great fatigue, and did not seem to be one that would easily succumb to the influence of chloroform.

Mr. C. H. Bromley, M.R.C.S., and dental licentiate, said he did not know the deceased previous to Thursday in last week, when he called on him and made an appointment for witness to operate upon him. For that purpose he (Mr. Bromley) saw him on Monday, with the last witness, when he was put under chloroform, which was administered very carefully by Dr. Stevens, who constantly felt the pulse of the deceased. Under its influence witness extracted one tooth and three roots of another. Nothing occurred to alarm witness up to that time, excepting that the deceased was very quiet, while witness thought he was not wholly under the influence of chloroform to be operated on. When Dr. Stevens told him to stop he

noticed that the deceased's face was quite blanched. Windows were opened, and cold water dashed in the face of the deceased. He had seen a great many patients under the influence of chloroform, and it was by no means unusual for a patient to remain under its action five or seven minutes, which was about the time that the deceased was under its influence. The deceased never rallied, though every possible means were tried to induce him to. The cause of death, in witness's opinion, was that the heart ceased to act in consequence of the action of the chloroform. There was nothing to indicate that there would be danger in using the chloroform. He thought the deceased was a very strong man.

In reply to questions put by the jury, Mr. Bromley said the deceased could have had the teeth extracted without chloroform. He was put under its influence at his own wish, to save pain. It would have been a more difficult operation to have had the teeth extracted without being placed under the influence of chloroform. The deceased bore the pain of having the teeth extracted without flinching.

A juror remarked that some people, while only partially under the influence of chloroform, struggled more than they did while not under its influence.

The jury returned a verdict to the effect that the deceased died suddenly while under the influence of chloroform, properly and carefully administered for a dental operation.—*Southampton Times*.

Midland Counties' Branch of the British Dental Association.

ON Wednesday, May 5th, a meeting of members of the British Dental Association, residing in the Midland District, was held at the Trevelyan Hotel, Manchester. The meeting had been convened by announcement in the *Monthly Review of Dental Surgery*, April 15th, and also by circular, signed by W. H. Waite, a copy of which was published in the *British Journal*, May 1st, p. 457.

There were present—H. Champion, Esq. (Manchester) in the chair; Messrs. W. Cheney, W. Dykes, J. M. Kelly, W. Kelly, L. Mattheson (Manchester); T. Dilcock, D. Dopson, J. R. Goepel, W. J. Newman, J. G. Roberts, W. H. Waite

(Liverpool); E. Ball (Buxton); J. Buckley (Hollinwood); J. S. Crapper (Hanley); Roff King (Shrewsbury); J. H. Kyan (Preston); J. Mahonie (Sheffield); J. N. Manton (Wakefield); W. Margetson (Dewsbury); J. Murphy (Bolton); W. H. Nicol (Leeds); I. Renshaw (Rochdale); F. Richardson (Derby); W. H. Ridge (Stafford); A. W. Whittingham (Hanley); D. A. Wormald (Bury); S. Wormald (Stockport), and some others.

The Chairman announced that this was a business meeting summoned for the purpose of receiving a report from the Provisional Council, elected by the January meeting, and he therefore called upon the secretary to read the report.

The Secretary then read as follows:—

At a meeting held on January 24th, a resolution was passed electing certain gentlemen as a Council, “to draft Bye-laws, nominate Officers, and prepare details for a General Meeting.”

In accordance with that resolution the Council have met twice, and endeavoured to the best of their ability to fulfil the duties entrusted to them. They have drawn up a provisional set of Bye-laws on the basis of the Bye-laws of the British Dental Association and the Western Counties Association; these have been examined (unofficially) by several of the leading members of the British Dental Association, and received their approval; they will however, require confirmation by a general meeting of the British Dental Association. It is thought that the Central Association may be greatly strengthened by the formation of local branches, both by reason of the moral support it will receive from them, and by the continual addition of new members, which it is hoped the branches will bring to the Central Association. In order to further the increase of members, the Council propose, and have made provision for the election of gentlemen who are not members of the British Dental Association as associates of the branch, who shall pay a subscription to and be entitled to all the privileges of the branch, but not to vote or hold office therein;

they hope that in this way some may be induced to become members of the Central Association. As it was decided that the Midland Counties' Association should be a branch of the British Dental Association, your Council felt that they were only able to invite to this meeting those who already are members of the British Dental Association, and they therefore suggest the desirability of inviting by circular all dentists who reside in the district and whose names are on the Register, to become Associates of the Midland Branch.

Since the annual meeting of the British Dental Association will probably be held about August, the Council think it advisable that the branch meeting should take place in the spring, so as to allow as long an interval as possible between the two. As, however, it seems undesirable that twelve months should elapse between the formation of the branch and its first general meeting, they propose to take the opinion of those present as to the wisdom of holding the first ordinary meeting in the autumn of the present year, after the annual meeting of the Central Association.

The following resolutions were carried unanimously:—

W. Whittingham, Esq., proposed, and J. G. Roberts, Esq., seconded—"That the Report now presented be received."

The Chairman stated that the next business was to consider the proposed Bye-laws, and he called on the Secretary to read them.

It was then proposed by J. M. Kelly, Esq., and seconded by J. S. Crapper, Esq.—"That the Midland Counties' Branch of the British Dental Association be hereby constituted, and that the Bye-laws just read be approved, subject to final confirmation at the General Meeting of the British Dental Association."

It was proposed by J. R. Goepel, Esq., and seconded by J. Dilcock, Esq.—"That the following gentlemen be the Officers and Council for the ensuing year," viz.:—

President—H. Champion, Esq., Manchester.

Treasurer—S. Wormald, Esq., Stockport.

Secretary—W. H. Waite, Esq., Liverpool.

Council—R. E. Stewart (Liverpool); W. H. Nicol (Leeds); J. N. Manton (Wakefield); J. H. Kyan (Preston); J. Mahonie (Sheffield); F. Richardson (Derby); Roff King (Shrewsbury); J. Murphy (Bolton); W. J. O'Hara (Leicester); I. Renshaw (Rochdale); D. A. Wormald (Bury); A. W. Whittingham (Hanley).

It was proposed by D. A. Wormald, Esq., and seconded by F. Richardson, Esq.—“That the Annual Meeting be fixed for the last Wednesday in April.”

Proposed by Roff King, Esq., seconded by J. Wormald, Esq.—“That, as it is undesirable to wait twelve months for the first meeting, a special ordinary meeting be held in the first week of October, or as soon after the general meeting of British Dental Association as the Council may decide. Notice to be given of the date and place to all members and associates.”

This concluded the actual business of the meeting, and the Secretary at once proceeded to enrol members, about twenty-six gentlemen giving in their names.

A general feeling of deep regret was expressed that several gentlemen, not members of the B.D.A. had been induced to present themselves at the meeting, through the issue of an anonymous circular. The meeting in January, having appointed W. H. Waite, as convener of the next meeting, it will be seen that no circular or invitation could be authentic, without his signature. The official invitation to this meeting was of necessity confined to members of the British Dental Association, because no Branch could be legally constituted, except by those who had already joined the Central Association.

A cordial vote of thanks to the Chairman, brought the proceedings to a close.

The Dental Hospital of London.

THE Annual General Meeting of Governors of the Dental Hospital of London, was held at Leicester Square, on

March 11th; EDWIN SAUNDERS, Esq., one of the Trustees, in the Chair.

The Twenty Second Annual Report of the Committee of Management showed that the year ending December 31st last, has been one of prosperity.

A handsome donation of £50 made by Noel Whiting, jun., Esq., had been invested in the Government Funds.

The amount received from the Metropolitan Hospital Fund was £67 0s. 7d., and from the Hospital Saturday Fund £23 8s. 8d., being £6 11s. 6d. less than last year.

The donations of life governors during the year amounted to £222 10s., as against £147 in 1878, £115 10s. in 1877, and £220 10s. in 1876. The annual subscriptions amounted to £504 13s., as against £482 7s. in 1878, £457 6s. 6d. in 1877, and £397 18s. 6d. in 1876, while the general donations amount to £219 18s. 3d. as against £235 8s. 8d. in the preceding year.

The Committee thought that the Governors might fairly be congratulated upon the aggregate increase of these contributions; and they considered the gradual increase in the annual subscriptions during the last three years a very satisfactory sign, as these must always be regarded the mainstay and principal support of the Hospital.

The state of the funds has enabled the Committee to invest the sum of £147 in Consols, producing £151 0s. 2d. Stock, making the total Funded Property of the Hospital £974 7s. 6d. The Committee much regretted having lost the valuable services of Mr. Laurence Read, who resigned on the 16th June last. For the two years during which Mr. Read filled the office of House Surgeon, he discharged the duties with great ability; and the Committee felt that Mr. Read was entitled to their lasting gratitude. Mr. McCall, the Assistant Dental House Surgeon, was appointed Mr. Read's successor, but he held the appointment for only five months. Mr. J. B. Magor had lately been appointed to the office, and the honours he obtained at the School attached to the Hospital, warranted the Committee in believing that the post had never been more ably

filled. Mr. R. G. Bradshaw has been appointed Assistant Dental House Surgeon.

In accordance with the laws of the Hospital, Messrs. Fox, Woolfryes, and Normansell, retire from the Committee of Management, and to fill these vacancies the Committee recommended Messrs. G. Penson, A. J. Woodhouse, and Noel Whiting, jun.

The Report of the Medical Committee gives the results of the several operations of the past twelve months, as shown in the following analysis:—

Teeth preserved by filling:—

With Gold	...	...	...	...	1,091
White Foil	...	...	...	...	258
Plastic Material	...	...	...	...	5,006
Irregularities of Teeth treated Surgically and Mechanically	...	...	...	...	420
Miscellaneous Cases	...	...	...	...	2,781
Advice and Prescription Cases	...	...	...	...	1,006
Operations	{	Children under 14	...	...	7,506
		Adults...	...	...	8,900
„		under Anæsthetics	...	...	3,274
					<hr/> 29,242 <hr/>

It was also stated that during the past few years the number of patients had steadily increased, and in the year 1877, 5,000 additional cases presented themselves, and, in all probability, there will be no diminution, but an increase from year to year, that will tax the resources of the Hospital to the utmost.

The Medical Staff were much gratified to report that the gentlemen who have successively filled the offices of House Surgeon and Assistant House Surgeon, have given every satisfaction to the Committee.

The Staff also acknowledged the services of the Anæsthetists, Messrs. Clover, Braine and Bailey.

The services of the Dean, Mr. T. F. K. Underwood, were highly estimated, as the Management of the Students was entirely in his hands; and the Medical Committee were glad to be able to testify as to their progress, regular attendance, and conduct being quite satisfactory.

The appointments of Demonstrator and Medical Tutor made by the Medical Staff entirely at their own cost were of great value and benefit to the Students and the Hospital.

In conclusion, the Medical Officers reminded the Committee of Management that the increasing number of operations entailed increased expenses, and the necessity of upholding the Hospital in a state of the highest efficiency.

The CHAIRMAN, in commenting upon the Reports said that they gave a very satisfactory account of the work of the Hospital, and for which he thought there was room for further extension. Looking back at the period of great depression of trade which they had passed through, he thought they had every reason to congratulate themselves on their financial condition. Further efforts were to be made and there was no reason why there should not be a larger share of public support than they had as yet enjoyed.

Mr. T. HYDE HILLS considered the Reports very satisfactory and encouraging. He was surprised to see the number of patients they had, and also the number of operation which had been performed. He had pleasure in moving the adoption of the Reports.

Mr. T. UNDERWOOD seconded the motion, and it was carried unanimously.

Messrs. G. PENSON, NOEL WHITING, jun.; A. J. WOODHOUSE, nominees of the Committee of Management were elected to that Committee.

After the usual votes of thanks the meeting was made special, for the purpose of confirming certain alterations of the rules, which were as follows.—

Rule 1. That under the words “under the direction of,” the words “a *President, Vice-President, Patrons, and Patronesses,*” be inserted.

Rule 5. That after the word “for,” “*four,*” he substituted for “three.”

Rule 13. That after the word “securities,” the words “*or freehold ground rents,*” he added.

Rule 37. An alteration similar to the preceding.

These alterations were agreed to.

A vote of thanks having been given to the Chairman, the meeting terminated.

The National Dental Hospital and College.

ANNUAL DISTRIBUTION OF PRIZES, 1880.

THE annual distribution of prizes to the successful students took place at the Beethoven Rooms, Harley Street, on Thursday, May 6th. Luther Holden, Esq., F.R.C.S., President of the Royal College of Surgeons, occupied the chair.

The DEAN (Mr. T. Gaddes) read the following report for the past year:—

THE past year's history of the National Dental Hospital and College is illuminated with success, and, therefore, is highly satisfactory. The prosperous condition and progress of the Hospital as a charity will be found recorded in the recently published *Report*. Of the educational department of the Institution, a good account can be given. In this section, as in all undertakings where earnestness and diligence are bestowed, the efforts of the several teachers have been fully appreciated by the students.

The teaching and, as a result, the work done at the Hospital have been considerably enhanced in efficiency by the delivery of a series of Clinical Demonstrations, and also of a course of Lectures on Operative Dental Surgery and Therapeutics by Dr. Thompson. By thus securing the services of one whom we are pleased to recognize as a colleague, we tacitly express our desire to see operative Dental Surgery included in the curriculum of the students of Dentistry. Manipulative ability is sought of the dentist by the public, and the candidates who present themselves for examination at the Royal College of Surgeons of England, have to give practical evidence of their handiwork in the mouth; but as matters at present stand, the student is not required to be specially taught that which he is specifically examined upon.

Recognizing the value of Clinical teaching, each Member of the Staff of the Hospital has undertaken to deliver at least four Clinical Lectures during the year, and nine such lectures were delivered during the past winter session. It is felt that the importance of practical teaching cannot

be over estimated, and we are gratified to find that the general work done by our students during the past year will compare favourably with that so done at any other school.

Considering the transitory state of our profession, the number of students who have joined the institution during the year has been greater than we had anticipated, 14 new names having been added to our roll. And it is worthy of observation that the two students who have in the several competitions proved themselves the most meritorious, are first year's men.

Mr. Mansell has won the Prize Medal for Dental Surgery and for Dental Mechanics; also the Certificate of Honour for Dental Anatomy, for the Elements of Histology, and for his paper on Deformities of the Mouth. This list of his honours is not yet complete, for in the special examination for General Proficiency, he was awarded the highest prize we have to give—the Rymer Gold Medal. Mr. Pidgeon will receive the Prize Medal in Dental Anatomy, and in Metallurgy; also the Certificate of Honour for Operative Dental Surgery, and for the subject of Deformities of the Mouth. Mr. Frederick Rose will receive the Prize for Operative Dental Surgery, and the Certificate of Honour for Dental Surgery; while a Certificate of Honour has been awarded Mr. Bailey and Mr. Gabell for Metallurgy and Dental Mechanics respectively.

Several competitors entered at the various examinations, therefore these honours have been won with great credit.

The resignation of Mr. Stocken from the extra lectureship on Dental Materia Medica and Therapeutics was received with much regret, but it is satisfactory to find that having relinquished the duty, he now enjoys better health. We have also to record the resignation of Mr. Oakley Coles as Dean. That office he held for more than two years, and the present organisation of the school is the result of the energy with which he devoted himself to the working of the institution. Indeed, had it not been for his efforts in the past, we should not have been here this evening. The retirement of one so active as Mr. Coles from the responsible Deanship is cause for regret.

It may not be inopportune to here direct attention to our existing arrangements for preparing candidates for

the Preliminary Examination in Arts, and the facilities which that class offers should not be lost sight of.

This report cannot be concluded without expressing our high appreciation of the distinguished honour which has been conferred upon us by the presence this evening of our esteemed Chairman, Mr. Luther Holden; and while we sincerely thank him for his great kindness, we trust that the results of our earnest efforts to advance Dental Education will not be unworthy of his commendation.

After the prizes had been distributed,

The CHAIRMAN said:—Ladies and gentlemen, my first, my plainest, and my not unpleasing duty, is to scatter broadcast my congratulations. First of all, I have to congratulate the School of the National Dental Hospital and College on the excellent and satisfactory report which has been read to you by the Dean. Even if he had not told us that the report was satisfactory in so many words, we could have judged for ourselves that it was so, and that the school was flourishing simply by the state of the pupils. They have distinguished themselves so much that unquestionably the school must be in a very efficient state. A school can always be judged by the work done by the pupils. If they do their work well, depend upon it the school is in good order. Secondly, gentlemen, I have to congratulate those gentlemen who have earned their prizes. Thirdly, I have to congratulate those who have not earned their prizes, because I know very well they have been hard at work—at least I hope so. I know they have been working very hard to earn them, and the work they have done has done no harm, but it is an earnest, perhaps, that next year they will get the prizes. Fourthly, I have to congratulate all those students that so many ladies have come here to witness the interesting ceremony of the distribution of prizes to them.

But, ladies and gentlemen, far more than all this, my congratulations to the students are due for the course of study in which they are now engaged. It is a course of study which would be most valuable and advantageous to every man, no matter what his rank or his occupation in life, for it would largely contribute to the intellectual enjoyment and happiness of this life. I think you will all agree with me that there can be no employment more ennobling to the intellect, and more gladdening to the heart,

than that of tracing the evidences of design and purpose everywhere visible in creation. Would not the country gentleman enjoy his ride over his estate all the more if he had some knowledge of botany—some insight into the chemistry of the beautiful husbandry which nature carries on in her fields? Would it be no advantage for him to understand the intricate processes by which “old decays but foster new creations?” “Bones and ashes feed the golden corn.” Would not those who go down to the sea in ships be wiser and better if they could read the lessons the fowls of the air and the fishes in the sea could teach them of the wisdom and goodness of God? Would they not hear His voice in every wave that claps its hand, and hear His voice in every breeze that blows? Really, gentlemen, I cannot understand how any man can enjoy himself intellectually, or even be said to live in the present day, unless he has some knowledge of natural science. A man who has no knowledge of natural science may be almost said to go blindfold throughout the world. The steam-engine, what an extraordinary thing it must be to him! The light of gas must be all darkness to him! What must he think of the miraculous effects of chloroform? With what unutterable amazement will he hear the fact that this country and America are connected with an electric current within speaking distance, and that a few seconds of time are sufficient to transmit, two thousand miles through the waters of the Atlantic, any number of messages he pleases. I think, then, gentlemen, that I have said enough to warrant my hearty congratulations to you; and I address myself specially to the students that have made the study of science their constant and kindly friend. I venture to hope that each one of them will contribute something to the general stock of knowledge, if they will, in addition to their immediate daily work, but cultivate some one or other of the collateral sciences. Surely where there is such a variety of choice, they can find one at least to their taste.

Who can tell in what part of the wide world your future path may lead you? You may, perhaps, be placed under circumstances where you will enjoy remarkable opportunities of following out your favourite pursuits. You may be possibly called upon to make some report of the circumstances, not only to observe them carefully, but to make

an official careful report to the proper place of them, and I hope, indeed, that all of you will belong to the aristocracy of science, for this is our aristocracy *par excellence*; and I may add that the ranks in this aristocracy have been always largely added to by gentlemen who follow the special branch of the profession to which you belong. Yes, gentlemen, you must be scientific as well as practical; for I cannot conceal from you that the mere fact of your being registered as Dental or any other practitioners is not enough to entitle you to the esteem of society unless you possess other qualifications. You cannot hope to hold the position you ought to do unless your attainments are adequate to the demands of a liberal profession, and unless the whole tenor of your conduct be such as befits a Christian gentleman.

You will hereafter be brought in contact with men of all grades; and it will be your own fault if you do not gain their respect and confidence. If, in addition to your regular professional acquirements, you possess some literary attainments, surely no men are better qualified to give tone to society! It must be great pleasure to a patient to find in his doctor an enlightened friend, one who not only does his duty patiently and kindly, but is no stranger to religion and science. Is not the doctor and professional man appealed to on all occasions, and sometimes when it is least expected? It is recollected of the great Duke of Wellington that on the occasion of his installation as Chancellor of the University of Oxford, he had, according to the usual custom, to make a Latin speech. For once in his life the great Duke found himself at fault. Thinking that his doctor ought to be a good scholar, he asked him to compose one, and fortunately the scholarship of the doctor was equal to the emergency. Now, gentlemen, in due time most of you who are now listening to me will come up for your examinations in the Royal College of Surgeons, in order to obtain your licence to practise. On the way in which you spend the golden days of your student's life depends your future station in the world. They will make you either somebody or nobody. Now, as I have no doubt whatever that you wish to be somebody, I shall just take leave to make a few remarks to you, and they shall be very brief, on what I conceive to be the best way of spending your time, or rather, the best spirit in

which you should work. The examining bodies have laid down the ground-plan of your education with great judgment, and with due regard to the economy of your time. Most of your time, theoretically at any rate, is spent in attendance on the lectures. Now, even suppose the attendance on the lectures were not compulsory, I advise you to attend them regularly; do not be persuaded that you can learn more by staying at home. True, you can find in books most of what you hear in a lecture; nay, you find a great deal more, for you find a mass of details which are of more practical value to you, and you are not able to determine what is practical knowledge. The sciences of late years have made such tremendous strides, in various directions, that if left to yourselves, possibly you might take the wrong road, and possibly lose yourselves altogether. The chief aim of a lecturer is to get together the mass of details and put them prominently before you. He arranges and compiles them for you; he brings up to a focus all the light on the subject, and shows you how it bears on the practice of the profession. You should look on the lecturer as your guide, who works quite as hard as you do, and is no less anxious than yourself to go over the ground for you for your advantage. He will make good paths for your feet if you will only walk in them. Therefore if you meet with a difficulty, go to your teacher and ask him to explain it. If it be a simple question, do not be afraid to put it; remember they were once all students like yourselves. What the oldest amongst us knows is a mere nothing compared to what he does not know. The teacher who ceases to be a student ceases to learn, and therefore is not a proper person to take the lead.

Now, gentlemen, you must remember that lectures are only intended as helps to you. They are intended to smooth the way in which you are to learn yourselves. You are not to sit there passive and expect to see done for you that which you can only master by seeing done yourself. You may just as well expect to learn to ride by looking on in Rotten Row, or to be accomplished musicians by listening to the melodious strains we shall listen to this evening. Your mind must be up and doing. Take notes of the subject of the lecture. With the help of these notes write out in the evening all the essential points of the lecture, as far

as you can remember them, in your own words. If you are satisfied merely with thinking the lecture over, the matter will not stay by you long. Even in the act of thinking, you are bound to use words: then why not think upon paper? You will, therefore, give life and duration to your thoughts, and can always direct them hereafter. Every one knows the advantage of reducing his thoughts into writing; it brings him into close quarters with his subject. Language is a powerful instrument in thinking. Again, this practice of writing will prove your composition and style, provided you do your best, and keep good company with the books you read. Do this, and you will soon learn to write, for it is with composition and style as it is with manners and good breeding; they are caught by example and confirmed by habit.

Well, gentlemen, knowledge we all know is very hard to acquire and very soon slips away; therefore, once a week you must carefully review your work. Read over your notes, as I used to do when I was a student, again and again; prove them as you would a problem in Euclid. Sir Edward Sugden, so famous for his learning and eloquence at the bar, was once asked by a friend the secret of his success. He replied in this way: "When I began to read law I resolved to make all the essential knowledge perfectly my own, and never to go to the second point until I fully mastered the first. "Many of my competitors," he said, "read as much in a day as I did in a week; but at the end of twelve months my knowledge was as fresh as it was when it was acquired, while theirs was half forgotten." The principles of all study are the same, no matter what the subject, if it is really to be mastered and grasped so that you can carry it about with you and use it. I must apologise to you, ladies and gentlemen, for having detained you so long, and I can only say, in conclusion, that I heartily wish the students of this college every success and happiness in the practice of their honourable profession.

In reply to a vote of thanks, proposed by Mr. Rymer, Mr. Holden said: I feel very much, ladies and gentlemen, the compliment you have paid me. I am much obliged to you, Mr. Rymer, for the very flattering words you have spoken of me. I cannot but say it has given me very great pleasure to be here this evening. I am always glad to be with the students. I am never happier than

with the students. I have spent the best years of my life with the students, and I am spending the closing years of my life with the students. It has been a source of extreme happiness, and it is only due to them that I should say, that they have always shown me the greatest kindness and consideration. They have never behaved to me in a way to which I could take the smallest objection, nor have they ever said to me a word which I could wish unsaid. I feel, ladies and gentlemen, very much the compliment you have paid me to-night. (Applause.)

This part of the ceremony having been concluded, an excellent selection of vocal and instrumental music was performed, under the direction of Mr. Charles Davieson, member of the Leipzig Conservatorium.

Odontological Society of Great Britain.

THE usual monthly meeting of this Society was held at 40, Leicester Square, on the 3rd inst., Alfred Woodhouse, Esq., President, in the chair.

Dr. WALKER read a communication from Mr. Oakley Coles, withdrawing some remarks which he had made at the previous meeting, in the course of a discussion on dental irritation as a cause of epilepsy. He had since heard that the patient on whom he had operated, at Dr. Ferrier's request, though she had been relieved from the one anticipated fit, had since relapsed, and was now as bad as ever. It was then evidently a case of epilepsy *with* dental irritation, but not dependent on it; hence the criticism which he had made on Dr. Ferrier's letter fell to the ground, and he desired to withdraw it.

Mr. SEWILL thought it was only just to Dr. Ferrier that this statement should be published. The patient had not been cured by the operation, she was now as bad as she had ever been.

The PRESIDENT announced that Mr. F. Canton had presented to the museum the jaw of a cat affected with cystic disease.

The SECRETARY then read a communication from Mr. Tod, of Brighton, who sent a model of the upper jaw of a patient,

aged 22, having an extra molar on the right side, which he believed to be a supplementary molar.

Mr. H. G. HARDING said he had not unfrequently met with considerable difficulty in the insertion of gutta-percha fillings in proximal cavities on front teeth, owing to the tendency of the two fillings to stick together. The first filling was easily inserted, but when the second was undertaken, the hot gutta-percha and the hot instruments were apt to stick to the first, and sometimes would pull it out altogether. To obviate this, he had formerly placed a strip of lead foil over the first filling, now he used a still simpler plan; he cut a strip of gummed paper, such as ordinary stamp edging, of sufficient breadth to cover the first filling, and long enough to cover it and some of the adjacent teeth. This was moistened, and placed in position, one end on the lingual and the other on the labial surfaces of the teeth. It effectually protected the filling, and was easily removed.

Mr. HARDING also showed a model of a curious case of irregularity. One of the deciduous molars had remained persistent, but the bicuspid had nevertheless been erupted, and had taken up their positions, one on each side of the temporary tooth. The fact that the bicuspid was generally thought to vertically displace its predecessor, rendered this case interesting.

Mr. MOON showed an apparatus for regulating teeth, which had been sent to him by Mr. Williams, of Leamington, and which he found gave very satisfactory results. The point to which the teeth were to be brought back, could be accurately adjusted, so that very few visits were required, and no harm could be done if the patient should continue to wear the plate for a considerable time without professional supervision.

Mr. VANDERPANT, of Kingston, showed, for Mr. Crapper, of Hanley, a specimen of osseous union and transposition of the second and third lower molars.

The PRESIDENT then called upon Mr. Arthur Underwood to read the paper of the evening, on "Nerve-stretching in Neuralgia."

Mr. UNDERWOOD said, that having been occupied for some time in studying the subject of neuralgia, he had found recorded in various medical publications, numerous cases in which, after every other remedy had been tried and failed, a cure had been effected by nerve-stretching. Cases thus isolated amongst other matter, and published singly at irregular intervals, produced a much less forcible impression on the mind than they did when collected together and considered *en masse*. For this reason, and also because it took a long time for such cases to make their influence felt through the current text-books, he had thought it worth while to make this operation the subject of a communication to the Society.

A great variety of causes might bring about facial neuralgia, such as a carious tooth, a piece of dead bone, an abscess, lead poisoning, chlorosis, rheumatism, and syphilis. Neuralgia itself was, in fact, only a symptom due to some form or other of nerve-irritation, and the neuralgia produced by any of these causes might vary greatly in degree from the common form, which readily yielded to the extraction of an offending tooth, or to the administration of one of the ordinary remedies, up to the rapid and resistless form of attack which had been characterized by Trousseau as "epileptiform" and of which that eminent writer said, that "it resists with a disheartening obstinacy all therapeutic measures, so much so, indeed, that even now, after more than thirty-six years of practice, I have never known it to be cured in a single instance, radically." After such an uncompromisingly unfavourable prognosis, from such an authority, it was no small evidence in favour of the operation to which he wished to draw their attention, to find that the disease in its most aggravated form *had* been radically cured by Nerve-stretching.

Until this mode of treatment was accidentally discovered, in 1869, by Nussbaum, the only remedy for these severe cases consisted in division of the nerve, an operation which afforded too often only temporary relief, as the morbid condition remained unaffected, ready to display its terrible phenomena as soon as the nerve had reunited.

Mr. UNDERWOOD then related three typical cases of epileptiform neuralgia. In the first case, drugs only had been tried, ineffectually; in the second case, division of nerves gave temporary relief; whilst in the third, nerve-stretching at once effected a permanent cure.

The first case occurred in his father's practice. A gentleman about forty years of age, a captain in the army, came to him complaining of the most agonizing attacks of neuralgia, which recurred with the utmost regularity, every five minutes, both day and night. For *ten years* he had been subject to this fearful torment; he had consulted every medical authority in Europe, and had taken every reputed remedy, but without the slightest benefit. He had scarcely sat down in the operating chair when he sprang up as if electrified, his face became deeply flushed, a profuse perspiration poured out from every pore of his skin, his teeth were clenched together, and he convulsively swept his hand over his forehead, uttering a subdued groan, which ended in a deep sigh of relief. The paroxysm was over, it had lasted but a few seconds only; but its short presence had been terrible enough.

The second case was related by Trousseau. The patient had for many years been subject to the convulsive form of neuralgia. The paroxysms lasted sometimes only a few seconds, sometimes a minute; they recurred whenever he ate, spoke, or drank, or whenever any one touched the few teeth he had left. The pain was seated in all the branches of the trifacial nerve of one side, but chiefly in the infra-orbital division. Several of the nerve-trunks had been divided already, but the relief had been only temporary, the pain always returning after an interval of from a few weeks to a few months. Extraction of his last remaining teeth did no good, but the division of the infra-orbital nerve gave him immediate relief, and he remained free from pain for several months. But about a year afterwards he returned, suffering in the same way, and several nerves were divided. He was then lost sight of for thirty years, when he was admitted into La Pitié with the same symptoms. The

poor man's face is now much scarred, from the surgical operations he has undergone, for whenever the pain became unbearable, he implored the help of some surgeon, and thus obtained relief for some days, or even for a few months.

The third case was reported by Dr. Grainger Stewart. The patient was seventy years of age, of temperate habits, and had formerly been a station-master. This occupation involved a considerable amount of exposure to the weather, still he had enjoyed good health until about seven years previously, when he began to suffer from facial neuralgia. Once established, the disease gradually increased in severity, and the intervals between the attacks became shorter. Dr. Stewart described the paroxysms as follows:—"The patient's face would suddenly change, twitching of the muscles on the right side of the face set in, giving rise to the strangest grimaces; the agony began simultaneously with the movement, and was most intense in the lines of distribution of the middle branch of the fifth nerve on the right side. The patient would seize his head with his hands, and press the painful part with the utmost violence, drive his knuckles into the space between the malar bone, slap his face, tear his hair, twist his body in all directions, and sometimes lose all control, and shout in his agony. This would continue for a few seconds, or perhaps a minute or two, when all the symptoms would subside. The paroxysm might recur again almost directly, or not for hours; generally they were most severe in the evening, or during the night. They were easily induced by touching the skin, or pulling the hair of any part of the area of distribution of the affected nerve, or by touching the gums or tongue. Mastication had thus become impossible, all food had to be taken in a liquid form, and no efforts were spared—by the use of tubes and other contrivances—to smuggle it past the sensitive region. Nine teeth had been extracted, in the hope of obtaining relief, but without benefit, and a long list of drugs had been tried. Dr. Stewart first stretched the infra-orbital at the foramen, and the operation was followed by a month's immunity from pain. The paroxysms

then returned, but the seat of pain seemed to be transformed to the mental foramen. The mental branch was accordingly cut down upon and stretched, and the patient has not suffered a twinge of pain since.

Mr. Underwood had found thirty-seven cases of nerve-stretching recorded during the last two or three years, in various papers and pamphlets. Of these, fourteen were done for facial neuralgia, twelve for tetanus, ten for sciatica, and three for neuralgia of the arm. Of these, thirty-two were complete and permanent cures, and two more were relieved of pain, but died from accidental causes. In the remaining five cases, the operation was performed for tetanus, and in four of them the disease was abated, and life was prolonged for some days. In no instance, so far as Mr. Underwood could understand, had any harm been done by the operation, whilst neurotomy was generally attended by more or less unpleasant results, viz.:—by paralysis, when a mixed nerve was divided, and in any case, by loss of sensation until the nerve had reunited, and then, in all probability, the pain would also return. Then sometimes the contraction of the cicatrix would press upon the nerve, and cause a fresh neuralgia, worse than the former.

As to the *rationale* of the treatment, it was impossible at present to give any decided opinion; the pathology of neuralgia itself was still so obscure that we did not really understand what it was we had to cure, much less how we did it.

M. Blum, in an interesting memoir upon this subject, in the January and February numbers of the *Archives Générales de Médecine* for 1878, thus tabulated the circumstances under which nerve-stretching is justified and called for.

(1) In neuralgia that resists therapeutic treatment and is limited to a certain nervous tract.

(2) When the neighbouring nerves show a tendency to become implicated.

(3) In neuralgia of traumatic origin, especially when there is reason to suspect cicatricial adhesions between the nerve and the surrounding tissues.

(4) In neuralgia affecting stumps.

In his *resumé*, he states that the efficacy of the operation is due principally to the modification which it brings about in the structure of the nerves, and above all in the circulation, not only at the spot where the stretching is done, but even at points more or less distant.

With regard to the cases which he had referred to, in which the operation had been performed, it must be remembered that they had all been severe ones, in which a variety of treatment had been previously tried; under these circumstances, he thought the results spoke strongly in favour of the operation. The number of cases might have been considerably increased, had he not decided to confine his researches to the last three years. In conclusion, he requested those present to relate their personal experience of the treatment of neuralgia, especially with regard to the operation.

Mr. COLEMAN said he could call to mind many cases in his practice in which he had little doubt that this operation would have done good. In many of these cases extraction of teeth would give temporary immunity from pain; he did not know whether this was due to the effect of the shock of the operation on the nerve, or whether it might be due to the stretching of the small branches to the fangs which took place at the moment of extraction. He should have been glad if Mr. Underwood had given a fuller account of the operation itself, especially as to the precautions to be observed in dealing with such nerves as the small branches of the facial.

Mr. CHARLES TOMES said his experience of nerve-stretching for facial neuralgia had not been very favourable. He believed it was almost impossible to stretch the inferior dental nerve effectually, for not only was it pretty firmly attached to the bone by fibrous tissue, but also because just at its exit from the canal it made a sharp turn upwards and outwards. Division of the nerve was not much more satisfactory, for the relief obtained was in most cases only temporary. In future, he should be inclined to per-

form the operation which had been proposed and carried out in a good many cases by Dr. Hodgen of St. Louis, viz., to expose the nerve in the dental canal and to withdraw a good length of it. The loss of the nerve was of very little account; he had met with two patients who had lost it from syphilitic disease, and they did not appear to suffer any inconvenience whatever.

Mr. SEWILL said he could not agree with Mr. Tomes when he said that the loss of the inferior dental nerve caused no inconvenience. He knew an elderly gentleman who was suffering from local anæsthesia, owing to a fibrous growth which pressed upon this nerve, and he complained of very great inconvenience; he was constantly biting his lip, and, owing to the absence of sensation, he was not aware that he had done so, until swelling of the lip resulted and seriously interfered with mastication. He had heard of cases in which nerve-stretching had done no good, but he had not yet heard of a case in which it had done any harm; he thought, therefore, that the operation would always be worth trying in a really obstinate case of neuralgia.

After some observations by Mr. WHITE, Mr. S. J. HUTCHINSON remarked that the seat of pain was more often referred to a spot near the angle of the jaw than to the region supplied by the terminal branches of the inferior dental nerve; what part of the nerve should be stretched in such cases as these?

Dr. H. C. BLANVELT of New York said he had assisted at several operations for nerve-stretching and the results had generally been very satisfactory. He could only then call to mind the particulars of four cases, viz. one stretching of the inferior dental nerve at the mental foramen, one of the ulnar nerve and two of the sciatic nerve.

In one of the last mentioned cases no good resulted, and four months later the operation was repeated, but again without effect, in the other three cases the operation was successful.

The PRESIDENT having called upon Mr. UNDERWOOD to

reply, he said that one cause of failure was excess of caution. In order to make sure of a successful result it was necessary to use a considerable amount of force, it was almost impossible to rupture a nerve unless really great violence was used. It was well also not to be satisfied by pulling in one direction only but if possible, in several so as thoroughly to loosen the fibrous attachments of the nerve. In answer to Mr. Hutchinson he might say that the facial nerve was always stretched at the point of its exit from one of the foramina, and good results might follow the operation even though the seat of pain might be referred to a point higher up. With regard to the relative value of stretching and of the division of nerve trunks, he thought that the loss of sensation, which must always follow the latter operation must always be more or less of an inconvenience, and that therefore stretching should be tried first, and that section should only be performed as a last resource.

The meeting then concluded with a vote of thanks to Mr. Underwood and to the other members who had contributed specimens and communications during the evening.

Fox Testimonial Fund.

The subscription lists are now closed at Messrs. Twining's and the Depôts, but we shall be pleased to receive donations till the 1st of June.

Abel, Alfred, Harrogate	2	2	0	Forester — Dublin	.....	0	2	0
Ashworth, H. Molyneux,				Foulds, B., Bolton	.....	0	5	0
Brow Station.....	0	5	0	Foulds, J. J., Farnsworth		0	5	0
Butterworth, B., Roch-				Foster, J. A., Birmingham	m	1	1	0
dale.....	0	10	6	Frost, G., Pendleton	...	1	1	0
Butterworth, R., ditto...	0	10	6	Gaddes, T., London.....	0	10	6	
Bridgman, F. G., London	1	1	0	Gaitskell, Jas., Gosforth	0	5	0	
Coleman, A., ditto	2	2	0	Gillies, D., Londonderry	1	1	0	
Coleman, H., Manchester	0	10	6	Gregson, E., Swinton	...	0	2	6
Corke, H. C., London	...	0	5	Hinds, J., Coventry.....	1	1	0	
Cottam, S., Oswestry	...	1	0	Hedgeland, J., Exeter...	0	10	6	
Crapper, J. S., Hanley...	2	2	0	Holland, J., Sloane street	1	1	0	
Davies, M. A., Dublin...	0	10	6	Hargreaves, J. J., Man-				
Dennant, J., Brighton...	2	2	0	chester	.....	0	2	6
Dearle, S. G. H., Liver-				Hepburn, D., Edinburgh	1	1	0	
pool	.....	0	10	Huet, F. A., Manchester	5	5	0	
Everatt, F., Manchester	0	10	6	Horrocks, J., Bolton	...	0	10	6

Ibbetson, G. A., London	2	2	0	Street, G. H.....	1	1	0
Jamieson, W. & J., do...	1	1	0	Summers, J. R., London	1	1	0
Kliros, G. S.	1	1	0	Stapfer, Heinrich, ditto	0	10	6
Kyan, J. H., Preston ...	5	5	0	Tomes, C. S., ditto	2	2	0
Lindsey, J. B., Dover ...	1	1	0	Tomes, John, ditto	2	2	0
Manton, J. N., Wakefield	1	1	0	Taylor, J., Warrington	0	10	6
Moon, H., London	2	2	0	Turner, James Smith ...	2	2	0
Margetson, W., Dewsb'y	2	2	0	Townend, J., Manning-			
Margetson, W. E., ditto..	2	2	0	ham	1	1	0
Miller, J., London	0	10	6	Vanderpant, F. J.	1	1	0
Melrose, E., Bolton	1	1	0	Walker, Joseph, London	5	5	0
Nicol, W. H., Leeds.....	0	10	6	Wallace, James, Glasgow	5	0	0
Parkinson, J., London...	2	2	0	Waller, Bey R. C., Cairo	1	0	0
Partridge, H. F.	1	1	0	Wallis, C. J., Blackheath	0	10	6
Peacock, C. J., Scarboro'	1	1	0	Wardell, W., Luton.....	1	1	0
Pearson, W. H., Hull ...	0	10	6	Weiss, Felix, London ...	1	1	0
Pedley, George, London	1	1	0	West, C., ditto.....	1	1	0
Poundall, W., Brighton	0	10	6	Whitehouse, W.	0	5	0
Rose, J. E., Liverpool...	1	0	0	Wright, F., London.....	1	0	0
Rogers, Thos., London...	2	2	0	Henry, George	1	1	0
Saunders, Edwin, ditto...	10	10	0	Forsyth, W. F., London	2	2	0
Sherratt — Manchester	0	2	6				

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—May I ask you through your columns to support the appeal now being made, partly by circular and partly by *Dental Journal*, on behalf of Mr. Robert Pratt, late of Broad-street, Golden-square. He is in his seventieth year, and totally without means of support, either for himself or three daughters, one of them being a confirmed invalid. He has been known so many years to the profession that it would be idle for me to say aught about him. I shall be glad to receive subscriptions, and acknowledge the same, through your columns, if you will permit it.

Yours faithfully,

JOHN A. GARTLEY.

5, Sackville Street, W.,
May 4th, 1880.

"TO THE EDITOR OF THE MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—In the January number of the *Missouri Dental Journal* for the current year, appears a communication from "Our English Correspondent," in which reference is made to some remarks of mine made before the American Dental Association, at its last Niagara meeting, relative to the English Dental Reform Bill.

As my name was not mentioned I passed the matter over in silence.

A communication from Mr. Tomes in the March number of your journal however, seems to call for a few words as my name is therein mentioned.

Mr. Tomes' charitable supposition as to my having been misreported is correct, in some points as may be seen by the different accounts given by the different journals. On one point, however, I regret to say I was in error, having inadvertently stated that I thought the presence of certain American graduates in Europe was "the cause" of the passage of the English law.

Dr. Cook corrected my mistake at once by saying "one of the causes," which correction I was thankful to accept.

The original remark without the correction stands in the quotation.

In my remarks at Niagara I explicitly stated that my reference was to graduates of American colleges residing in Europe, referring as much to those who are not of American birth as to those who are.

If Mr. Tomes imagines that the English act "would have been passed as surely and as soon," had there been no English, German, and French graduates of American colleges resident in Europe, I must differ from him in opinion, at the same time feeling a deep regret to see "Our English Correspondent," impugn the motives of those gentlemen who have been active in the passage of the law.

I feel sure he cannot be personally acquainted with the Messrs. Tomes and Turner, or he would not have allowed himself to insinuate such a thing.

For the sake of "Our Correspondent," I shall also state that I am not aware that the gentlemen of the Reform Committee have honored me with any more confidence than they have him or others. It is true as Mr. Tomes states, that they spoke freely on the subject. They have undoubtedly done the same in public meetings, but as is seen, the views which I expressed, do not mirror the sentiments of the Committee, therefore could not have been derived from them.

I have had long conversations with quite a number of gentlemen on both sides of the question, and as usual find myself not wholly able to agree with either.

per K. H. E. H. BOGUE.

Annotations.

EDINBURGH SCHOOL OF DENTISTRY.

THE Summer Session of the Edinburgh School of Dentistry was inaugurated on Tuesday evening, May the 4th, by an introductory lecture delivered by Mr. G. W. Watson, L.D.S. Edin., in the Dental Hospital, 30, Chambers Street. There was a good attendance, including a large number of students, and Members of the profession. Among those present were Dr. J. Smith, F.R.C.S., Dr. Hogue, Messrs. B. Macleod, Wilson, Hepburn, Matthew, Cormack, and MacGregor. The lecturer traced the rise and progress of Dental Surgery from the earliest times, and contrasted the crude imperfect knowledge of the ancients with the wonderful perfection to which the science had been brought in modern times.

THE DENTAL ACT.

The question of the Dental Act has now been fully discussed : and in our recent numbers, Mr. Cattlin's address has stated the case fully on the one side, and to that Mr. Tomes has replied. There can, therefore, be no object in further discussion on this subject ; and we would advise both parties to devote their energies to developing and controlling the operation of the Act.—*The British Medical Journal*.

SURGEONS PRACTISING DENTISTRY.

All medical men engaged in dental practice who value the reputation of their specialty, will thank Mr. W. A. N. Cattlin, the President of the Association of Surgeons practising Dental Surgery, for the bold and able way in which in his recent address he expressed his disapproval of an Act by which 5,289 persons have been put on to a recognised dentists' register, only 533 of whom have given evidence of either a medical or a dental education. It is gratifying to hear from Mr. Cattlin that the sub-committee of his Association will use every endeavour to urge the Legislature to prohibit unqualified persons assuming the title of physician or surgeon alone, or in convenient and misleading conjunction with any other word or words. An evil principle has been acted on which may lead, if not soon disavowed, to still deeper injury to the medical art. We may have surgeon bone-setters and surgeon corn-cutters if the reckless legislation of recent years is not vigorously opposed.—*The Lancet*.

PALLADIUM AMALGAM.

Those who have once accustomed themselves to the little difficulties of using palladium are not likely to give it up, as for a certain class of cavities it has probably no equal as a filling material. But its limited applicability, by rendering its employment less frequent than it would otherwise be, makes it the more difficult to always rightly judge the proportions of mercury to add to it, and so leads to failure of one or more mixings in the hands of those who use it rarely. If the mercury be placed in the hollow reserved for the fillings in a Fletcher's amalgam balance, and the palladium in that reserved for his "Extra Plastic" fillings, the proportion is about right for convenient use. Of course it will have to be squeezed to get rid of excess of mercury, but this is the best way of manipulating palladium.

DENTINE PAPILLÆ OF PARROTS.

Dr. Max Braun is led, as one of the results of his investigations into the development of *Melopsittacus undulatus*,* to doubt the accuracy of Blanchard's statement that the young of *Cacatua* are provided with veritable dentine-papillæ, and he appears to think that Geoffroy St. Hilaire's observations were not altogether exact. The German embryologist finds, indeed, that processes are developed on the jaws of the young parrots, but he compares them rather with the denticulated margins of the jaw in the *Natatores* (Merganser, &c.) than with true tooth-processes. If these observations are confirmed, the parrots will not

* *Semper's Arbeiter*, V. ii. p. 179.

afford an example of the development of rudimentary teeth among existing birds, but though they will thus cease to remind us of the fossil *Odontornithes* discovered by Marsh, they will not cease to be uninteresting in the face of Professor's Owen's discovery, some years ago, of the well developed tooth-like bony projections on the jaw of *Odontopteryx toliapicus*.

TOOTH GRINDING AND GOUT.

The connection between the habit of tooth grinding and the gouty diathesis was pointed out by Dr. Graves in the *Dublin Medical Journal*, as long ago as 1836, and explained by him as being due to an irritable condition of the dental nerves. The following account apparently illustrates this observation, and is in other particulars of some interest. Eight children, the whole family of a father who has frequent attacks of acute and seemingly acquired gout, and of a mother whose grandmother and mother suffer severely from the same disease, grind their teeth almost incessantly at night, and have done so all their lives. I am told by the mother that the conjoint noise made by several of her children sleeping in one room is painfully audible outside the door. The eldest is twenty years old, the youngest ten months. All the children have cut their teeth at an early age, having generally two, if not four teeth, at three months. In several of these cases, there is a notable degree of that wearing down of the teeth which was frequently observed by Graves. The mother who, as I have said, comes of gouty parentage, though herself free, used to grind her teeth at night for many years. The children are also given to sleep walking and talking. The father was an habitual somnambulist as a young man, and still occasionally walks. Most of the children, I am told, are extremely nervous—"even painfully so." One youth, aged 18, has suffered considerably from nose bleeding, which is worthy of note, as Dr. Sutton and Dr. Wilks (Guy's hospital reports, 1868) state that epistaxis and other forms of hæmorrhage are common in children of a gouty diathesis. The two eldest children had corneal ulcers in both eyes of a strumous character. (H. Donkin, *British Medical Journal*, Feb. 21st. 1880).

SECOURS AUX BLESSÉS.

In the Paris correspondence of the *British Medical Journal*, there is a short account of the arrangements for affording prompt assistance to people injured in the street. These arrangements in their simple excellence form a striking contrast to our own. When a policeman finds anyone ill or hurt in the street he takes them to a druggist shop or police station; a medical man is called in, and after doing what is most urgent, conveys the patient to a hospital, or his own home if he prefers it. There are surgical and medical apparatus at every police station, and the medical man receives a fee of 6 francs, if called in during the day; 10 francs, if at night. Reference is made in the same notice to the "crèches" in Paris. These are supported by private means, by the churches, and municipal council, but are all under police control. Children at the breast are admitted, and the mothers if at work in the neighbourhood call to suckle them as often as they like; if the mothers cannot do this the children are brought up by the bottle, and fed by the nurses on cow's milk or other food according to age. The children are kept from 7 a.m. to 7 or 8 p.m., for

which the mother pays 1 penny daily. They are received at the crèches till $3\frac{1}{2}$ years of age, when they are transferred to "asiles," similar institutions where they are kept till they are 7. Vaccination is obliged to be performed before the child can be admitted.

The Paris winter seems to have been as terrible in its effects as our own, though we are accustomed to think London is the only place haunted by fogs and sleet. During the week ending February 5th the mortality was 1619 against an average of 1007, or more than *a third* in increase.

TREATMENT OF BABIES.

There are some observations upon this subject contained in Mr. Owen's Lectures on "certain practical points in connection with the surgery of childhood," which is of universal interest and importance both to the profession and to the outside world. Mr. Owen considers the two chief factors in the production of rickets to be improper food and insufficient clothing. The unwillingness or inability of mothers to suckle their babies; prolonged suckling; the use of condensed milk (which is frequently attended with sickness, diarrhoea, eczema, and rickets)—the practice of allowing the child to suck at the teat of his feeding bottle, the supply of milk being *for economy's sake* cut off by a knot in the tube, rendering the child as ill-conditioned as a colt, which in stable language is called a "crib-biter"; feeding at irregular times, are all pithily denounced by Mr. Owen as sources of mischief. The necessity for always keeping the child warm is strongly urged, as mothers seem to forget that the child has but a small power of keeping up animal heat compared with the adult, and it would be advisable to clothe children in flannel all the year round in this uncertain climate, during the day. And it is essential to be very careful of their warmth during the night. Cold baths are always bad, and a small handful of Tidman's sea salt is of real therapeutic value in the morning and evening warm baths. With regard to the age at which Osteotomy ought to be undertaken, Mr. Owen quotes several authorities, the prevailing view seems to be that it is unwise to operate much before the sixth year. He also lays great stress upon Mr. Savory's opinion that *use* should be the first object of the surgeon when attempting to restore the shape of rickety limbs, rather than *ornament*. Mr. Owen warns us of the frequency with which limbs apparently cured of their deformity will after a seemingly successful operation, gradually relapse into their previous condition when again subjected to the strain of use after the little patient has left the surgeon's care.

ERRATUM —P. 208, line 19, for "Royal Society," read "*Ray* Society."

TO CORRESPONDENTS

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION,

No. IV.

JUNE, 1880.

VOL. I.

IF the changes which occur in the progress of any body politic are to be beneficial and permanent in their results, they must be slow and almost imperceptible in their advent. Changes which are sudden are usually violent and destructive, making "confusion worse confounded," or creating confusion where it may not have existed. The dental profession had, until lately, undergone too little organisation to admit of any violent treatment, or to raise any sanguine hopes of immediate improvement under the legislative measures which had been established in its behalf.

It is, therefore, with sincere satisfaction that we note the gradual change which is coming over our profession since the passing of the Dentists Act. Not only is the necessity of union recognized, but the desire has been put into action in a most practical manner. It is now barely ten months since the Western Counties Dental Association held its first meeting in Exeter, under the presidency of Mr. Spence Bate; and in our May number appeared the report of a meeting in Manchester for the organization of "The Midland Counties Branch of the

British Dental Association," and the promoters of this latter movement have wisely made the membership of the central body a prior condition to membership of their local Association. The expediency of forming branches throughout the country is beyond question, but unless they become true branches, both by their constitution and action, a source of strength and support to the central Association, they must prove an element of weakness, and thereby an eminent danger to the conservation of the provisions of the Dentists Act, and to the interests of the dental profession generally. It is not by local societies springing up and acting on an independent basis, that the union of the profession can be promoted. Such bodies, by bringing the men of certain districts into contact, would foster rather than modify that wholesome antipathy to centralization, which in theory and in practice is so useful, but which, when carried too far, becomes a source of embarrassment to any concentration of strength, when and where it may be most required. Local self-government is in itself an admirable arrangement, but if it aim at autonomy, it becomes weak in itself, as well as a source of weakness to any arrangement of a more cosmopolitan character ; and energy is thereby frittered away in a struggle to make a small thing take the place and do the duties of a large one. Union is one of the essentials to strength, and the allegory of the bundle of sticks is as true now as in the days of *Æsop*.

The Memorandum and Articles of Association of the British Dental Association have been drawn up on the lines of the most successful organization of the kind with which we are acquainted, viz., the British Medical Association ; and to us it is no small advantage that we have had such valuable experience for our guidance, the results of which experience have been freely given to us by those who have

been most instrumental in bringing that association to its present prosperous condition.

In our Articles of Association, as amended and approved by the Board of Trade, provision is made for the establishment of Branches. The principal conditions of connection with the Central Association are—1st. That each member of the branch must also be a member of the main body. 2nd. That the Bye Laws must be approved by the Representative Board of the Central Association, and 3rd. That, while conforming to such Bye Laws, each Branch will be in itself independent, but that no Branch has power to act in the name or authority of the Central Body. Under such conditions, all proposals for affiliation will have every chance of being fully supported by those who make them, and thus any arbitrary increase of power by the main body is almost impossible; in fact, as Branches increase, the Central Association's meetings may become only a general gathering of the members of the various Branch Associations, for the transaction of business common to them all.

The conditions of Membership laid down in the Articles of Association are binding alike on all. It is thus impossible to make any modification of such terms to members of Local Branches. It is not unusual for registered associations to demand an annual subsidy from local branches, but this plan has not been followed in our case. On the other hand, if, as has been suggested, certain exemptions could be made in favour of Branches, such local organisations would be sources of weakness to the main Association, a modified subscription being only another name for a capitation grant.

The concentration of energy must be one great object in the working both of the General and Branch Associations. The branch societies will collect the energy of a district,

the central one will concentrate the energy transmitted by the branches. The function of the Central Association is to utilise and direct that energy which will be the conjoint product of the General and Local Associations.

Individual members are an essential and welcome element of strength, and in fact for many a day, in our scattered and disunited profession, they must be the principal source of our revenue and power. But it will only be when members belong to district branches, in which they will learn the difficulties of management and the importance of influence, that the functions and labours of the Central Association will be understood. The attitude of branches or of individuals, will not then be either that of dictation or opposition, but participation.

We cannot leave this subject without pointing out a few of the direct benefits that the members of branch associations will have in being connected with the parent society ; thus, they will have in the journal a means of recording their proceedings, which will not only be circulated amongst their own members, but amongst the profession generally. By the same agency, all notices of meetings will be given free of the cost of printing and circulating, which will enable them, as in the case of the British Medical Association, to carry on their work with a mere nominal subscription.

University of London.

THE following important statement has been omitted from the several published reports of Sir John Lubbock's address, on his election as the representative in Parliament of the London University :—

Since I have had the honour of a seat in Parliament, I have taken a considerable interest in Medical Legislation,

and have succeeded in passing Bills for the College of Surgeons, the Apothecaries Company, and the Dental Reform Association. The latter Bill has recently been subject to some adverse criticism, arising, I think, from a misapprehension. It has been said that the Bill gave persons who had not a proper qualification the right to call themselves Surgeon-Dentists. This is quite a mistake. The Bill did nothing of the sort. It is also said that under the Bill persons were able to place themselves in the Register without sufficient qualification. This, however, is confined to those who, before the passing of the Bill, were actively engaged in Dentistry. The clause was drawn on the lines of the Medical Act, and Parliament would never consent to deprive persons actually practising of their right to do so. The Bill was brought to me by Mr. Tomes, President of the Dental Reform Association, was supported almost unanimously by the Dental profession, and had been submitted to, and approved by the three great surgical Colleges. It is true that, as you have been told, some eminent medical men expressed themselves as opposed to the Bill, but I think that you will be surprised to hear that several of them afterwards withdrew their opposition, and, having looked further into the matter, expressed their full approval of the Bill, and hoped it would become law. Under these circumstances, I think you will agree with me that, having thus the sanction of the recognised medical authorities, I was justified in considering that I acted in accordance with the wishes of the medical profession. I know that there are still some few who object to the Bill, but even Doctors will, we know, differ. I believe their objections are founded in misapprehension, and I hope eventually they will themselves admit that it has worked well.

Researches on the Ossification of the Inferior Maxillary, and
on the Dentition of the Fœtus of *Balænoptera rostrata*.

(*Archives de Biologie*, I. i. (1880), pp. 75-136. 2 plates.)

COMMUNICATED BY F. JEFFREY BELL. M.A.

THE new Belgian journal, the *Archives de Biologie*, edited by Professor E. van Beneden and C. van Bambeke, which is the first journal published in that country which devotes itself solely to biological matters, contains an article, of which we have translated the title, by M. Charles Julin, Assistant Teacher of Embryology in the University of Liege. From every point of view, the subject which this investigator has selected is one of very considerable importance, and it will be of interest to point out the more remarkable of the results to which he has attained.

It will not, perhaps, be out of place to remind our readers that *Balænoptera rostrata* belongs to that sub-order of the Cetacea (whales and dolphins), which is ordinarily known as the Mystacocete or Balænoidea (or true whales in which the teeth are replaced by baleen plates), and to the family of Balænopterida or Rorquals, which are distinguished from the right whales by having a dorsal fin; the interest of this especial form lies in the fact that it has, hitherto, been regarded as having no rudimentary teeth in the embryonic condition, although such are not unfrequently found in members of its sub-order, and have even been observed in the creature which is known distinctively as the Baleen whale.

Commencing with a description of the general characters of the lower jaw, M. Julin points out that there is no angle to the jaw, and that the "ascending portion" is in a straight line with the alveolar portion; in the specimen under description, where the whole ramus measured 84 millimeters in length, the posterior region was, however, about one and a half times as deep as the alveolar portion, and it was, consequently, easy enough to distinguish two distinct regions—one alveolar, and the other coronoid. Both the internal and external surfaces of the former are slightly convex vertically; along the

upper surface there is the so-called alveolar sulcus, which lodges the follicles of forty-one teeth, disposed in a continuous series from the symphysis to the coronoid process; the symphyseal portion of each side is united to that of the other ramus by a band of connective tissue; the coronoid process has the form of a rectangular triangle, and the large condyle is formed by two tuberosities. A transverse section taken through the middle of the alveolar region exhibits from without inwards (1) the integument, which is continuous with the buccal mucous membrane along the superior edge of the jaw; (2) the alveolar groove, the walls of which are formed by the ossified portions of the mandible, which is itself filled by a connective tissue, in which there are lodged, superiorly the dental follicles, and inferiorly the vessels and dental nerves; (3) the osseous maxilla is formed by anastomosing bands of osseous tissue, and has along its axis a mucous tissue, with-in blood vessels; (4) on the inner face of the ramus there is seen the Meckelian cartilage.

In passing to a consideration of the alveolar groove, the author states that in that term, he includes the dental canal, in which the vessels and nerves are set, and the groove proper, in which are found the dental follicles; this latter does not extend further than the coronoid process, and the connective tissue with which it is filled presents the characters of integumentary tissue, while the former extends as far back as the orifice of the dental canal, and has in it a connective tissue less dense, and more like sub-cutaneous tissue. From behind forwards the groove proper diminishes in depth and increases in width. Slight as is the bibliography of this subject we need not follow our author into his account of it, but may come at once to describe what he found in the foetus he examined. First, then, all the 41 dental germs presented the following characters: there was an epithelial structure, representing the enamel organ of other mammals, there was a connective tissue structure forming the dentine, and there was a delicate layer which formed an envelope for the whole

germ. The enamel organ formed a cap for the "ivory-organ," and, at the tip of this latter it was in some cases, possible to see a delicate layer of dentine which the author regards as the sole representative of the tooth proper. The general structure being, then, altogether similar to that of other mammalia, the question arises as to whether there is any difference in structure. No such is to be found; the enamel organ is made up of layers of cells, of which the most external are cubical in form, with rounded nuclei, and the more internal cylindrical, with oval nuclei; these latter are set on a membrane similar to the *membrana preformativa* of the mammalian teeth; and between these two sets of cells there is an intermediate cellular mass. The dentine-germ is composed of a mass of small irregular fusiform or stellate cells, with oval nuclei, and separated by a finely granular and occasionally fibrillated substance.

Three sets of tooth-germs may be made out according as the upper portion of the dentine-germ is simple, bifid, or trifid: the first or simplest are found nearest the symphysis, and the most complex, most near to the coronoid process; and these differences in character, together with the large number of teeth which are developed, make the dentition of the foetus of *Balænoptera* highly remarkable. What their importance really is, is best seen by considering the arrangement that obtain in allied forms. In the number of its teeth this *Balænoptera* comes nearest to the odontoceti or toothed whales, and they are remarkable, as compared with the majority of mammals, by having only one set of teeth, or being, in technical terms, monophyodont; nothing, however, in the characters of *Balænoptera* aids us in resolving the important morphological question of the identity of this set of teeth with the milk or with the permanent series of the diphyodont forms. On the other hand, the odontoceti are not only monophyodont, but are also homodont, or have all the teeth similar in character, and all have only one root; this is not, as we have already seen, characteristic of the *Balænoptera*; its teeth vary considerably in character, and the posterior

ones are very similar to the molars of the *Phocidæ* (seals), which are placed by all naturalists with the Carnivora, and not with the Cetacea. The indications of the affinities of the Balænopterida being thus obscured, M. Julin, like all philosophical naturalists, has recourse to the data of Palæontology; among the fossil Cetacea there is one, *Squalodon*, which is distinguished from all its allies by the heterodont character of its teeth; the formula of the dentition of this creature, as determined by M. P—J. van Beneden, the illustrious father of the editor of the *Archives*, is

$$i = \frac{3}{3} \quad c = \frac{1}{1} \quad pm = \frac{4}{4} \quad m \frac{7}{7} \quad (=60).$$

Of these, the first eight pairs are caniniform, and have single roots, while the so-called molars have two roots, and have their borders crenulated; between this form and the foetal dentition now under discussion the resemblance is sufficiently striking, and justifies the generalisation that the *Squalodonta* and *Mystacocete* are, like the Pinnipede Carnivora, heterodont, whereas the rest of the Cetacea are homodont; nay, more, it is perhaps not unsafe to say, that the two families or sub-orders just named, stand intermediate between the Pinnipedia and the great majority of the Cetacea. A more important conclusion on which the author hardly at all insists, may, perhaps, be drawn from his observations. Very great difficulties have stood in the way of understanding the process by which the homodont Cetacea can have ever been derived from the heterodont Carnivora; now, however, we see that the heterodont arrangement is obviously inherited in the present (Balænoptera), just as clearly as it was possessed in the past (*Squalodon*) by members of the great Cetacean order; this being certain, all that remains is to find a mechanical explanation for the fact of most modern Cetacea, or as we may justifiably say, those Cetacea that have succeeded in the struggle for existence, having a homodont series of teeth; it is now certain that, for them, at any rate, whatever be the case with the more lowly Edentata, the homodont arrangement is one that has been secondarily acquired,

and not one that has been directly inherited from some Salamandrine progenitor of the Mammalia.

The next subject with which the author deals is the Meckelian cartilage, in which he finds an intra-osseous, and an extra-osseous portion; the former occupying two-thirds of the whole jaw anteriorly, and the latter the posterior third; there is no need to give any detailed account of its varying course, but it is necessary to direct the reader's attention to the able sketch which is given of the different views which have been held as to the process of ossification. Over this, however, we cannot linger, but must hasten on to the account of the process of the ossification of Meckel's cartilage; as is well known, there is some difference of opinion as to the share which this cartilage takes in the formation of the jaw-bone; Meckel, Robin, Magitot, Gegenbaur, and others believe that this structure takes no part in the matter; on the other hand, Kolliker, and a more recent observer, M. Masquelin, just as much as Reichert, believed that in some animals at any rate the cartilage does take some share in the formation of the maxilla; M. Julin sides with the latter party, for he finds that in Balænoptera, the cartilage gives rise to a number of osseous lamella, which become connected with those that are developed at the expense of other tissues by the intermediation of a well developed lamella formed from the perichondrium; this osseous modification is, at the same time, confined to the anterior or intra-osseous portion of the cartilage, for the extra-osseous portion, or posterior third, retains the characters of hyaline cartilage; the mode by which ossification is effected is carefully described, and the whole is summed up in saying, that it is brought about in a fashion analogous to that by which the diaphysis or shaft of a long bone is ossified. The condyle of the jaw has likewise a cartilaginous rudiment preceding the stage of ossification, but there is no such for the coronoid process, as there is in man; this last, like a large portion of the maxillary bone, is preformed in connective tissue, but with its details, or with the more

general considerations on the processes of development of bone, into which the author enters, it is not right here to concern ourselves; the writer's observations will, nevertheless, be of considerable interest to the histologist. In conclusion, we must take occasion to repeat what has been already said, that the account which is given of the dentition of this foetal whale is of much importance in face of the difficult questions which surround the history of the dentition of the mammalia.

Memorandum and Articles of Association of the British Dental Association.

MEMORANDUM.

1. The name of the Association is the "British Dental Association."
2. The registered Office of the Association is to be in England.
3. The objects for which the Association is established are the promotion of Dental and the allied sciences, and the maintenance of the honour and the interests of the Dental profession by the aid of all or any of the following:
 - (a). Periodical meetings of the members of the Association, and of the Dental Profession generally, in different parts of the country.
 - (b). The publication of such information as may be thought desirable in the form of a periodical journal, which shall be the journal of the Association.
 - (c). The occasional publication of transactions or other papers.
 - (d). The grant of sums of money out of the funds of the Association for the promotion of the Dental and the allied sciences in such manner as may from time to time be determined on.
 - (e). The maintenance of the spirit and provisions of the Dentists Act by such lawful means as may be necessary.

(f). The encouragement of the Dental Benevolent Fund for the relief of decayed or necessitous members of the profession.

(g). And such other lawful things as are incidental or conducive to the attainment of the above objects.

4. The income and property of the Association from whatever source derived, shall be applied solely towards the promotion of the objects of the Association as set forth in this Memorandum of Association, and no portion thereof shall be paid or transferred directly or indirectly by way of dividend or bonus or otherwise, however, by way of profit to the members of the Association. Provided that nothing herein shall prevent the payment in good faith of remuneration to any officers or servants of the Association or to any Member of the Association or other person in return for any services actually rendered to the Association.

5. The fourth paragraph of this Memorandum is a condition on which a licence is granted by the Board of Trade to the Association in pursuance of Section 23 of the Company's Act, 1867.

6. If any member of the Association pays or receives any dividend, bonus or other profit in contravention of the terms of the fourth paragraph of this Memorandum, his liability shall be unlimited.

7. Every member of the Association undertakes to contribute to the assets of the Association in the event of the same being wound up, during the time that he is a member, or within one year afterwards, for payment of the debts and liabilities of the Association contracted before the time at which he ceases to be a member, and the costs, charges, and expenses of winding up the same, and for the adjustment of the rights of the contributories amongst themselves such amount as may be required, not exceeding the sum of one guinea, or in case of his liability becoming unlimited, such other amount as may be required in pursuance of the last preceding paragraph of this Memorandum.

8. If upon the winding up or dissolution of the Association there remains, after the satisfaction of all its debts and

liabilities, any property whatsoever, the same shall not be paid to or distributed among the members of the Association, but shall be given or transferred to some other institution or institutions, having objects similar to the objects of the Association, to be determined by the members of the Association at or before the time of dissolution, or in default thereof by such Judge of the High Court of Justice as may have or acquire jurisdiction in the matter.

We, the several persons whose names and addresses are subscribed to this Memorandum, are desirous of being formed into an Association in pursuance of this Memorandum of the Association.

NAMES, ADDRESSES, AND DESCRIPTIONS OF SUBSCRIBERS.

NAMES.	ADDRESSES.	DESCRIPTIONS.
Geo. A. Ibbetson	Hanover Sq., W.	F.R.C.S., L.D.S.Eng.
Edwin Saunders	George St., W.	F.R.C.S.
Thos. Underwood	Bedford Sq., W.C.	L.D.S.Eng.
James Parkinson	Sackville St., W.	L.D.S.Eng.
T. A. Rogers	Endsleigh St., W.C.	M.R.C.S., L.D.S.Eng.
J. S. Turner	George St., W.	M.R.C.S., L.D.S.Eng.
John Tomes	Cavendish Sq., W.	F.R.S., M.R.C.S., L.D.S.Eng.

Witness to the above signatures,

Dated the day of 188

ARTICLES OF ASSOCIATION.

1. For the purposes of Registration, the number of the Members of the Association is declared not to exceed 25.

2. The Representative Board of the Association hereinafter mentioned may, whenever the objects of the Association require it, register an increase of Members.

3. The Association is established for the purposes expressed in the Memorandum of Association.

QUALIFICATION, &C., OF MEMBERS.

4. Every person who at the date of the Registration of the Association is an ordinary member of the unincorporated body called by the same name within the meaning of their laws, dated August, 1879, and has paid all subscriptions due from him in accordance with such laws, shall be entitled to become a Member of the Association (hereinafter

called a member) upon signing an agreement in that behalf.

5. The terms and conditions upon which every person not entitled to become a member under Article 4 is to become a member, and also under what circumstances any Member may be expelled from the Association, so as to cease to be a member thereof, shall be prescribed from time to time by the Association in General Meeting.

6. Every member shall pay a subscription to the Association of one guinea per annum, which shall entitle him to receive the publications of the Association for the current year; the subscriptions shall date and be considered due in advance on the 1st of January, in each year, commencing on the 1st of January, 1881, except in the case of a member admitted on or after the 1st of July in any year, when the subscription for such part of the year shall be half a guinea in advance.

7. Any member whose subscriptions shall not have been paid on or before the 31st of December of the current year, shall without prejudice to his liability to the Association be suspended from all privileges of membership until he shall have paid the same and all subsequent subscriptions (if any) up to the time of payment. No member shall (except in the case of his death or expulsion) cease to be a member without having given previous notice in writing of his intention in that behalf, on or before the 30th day of November in the current year, to the Secretary hereinafter mentioned, and paid all arrears of subscriptions (if any) due from him.

8. Fellows without any of the liabilities of members, may be elected from time to time, by the Association in General Meeting, on the recommendation of the Board hereinafter mentioned. The following classes of persons shall be eligible as Fellows:—

(a). Members of the Dental Profession of scientific eminence residing in the United Kingdom, in the Colonies, or in Foreign Countries.

(b). Gentlemen residing in the United Kingdom, in the

Colonies, or in Foreign Countries, not belonging to the Dental Profession, but distinguished in medical, sanitary, or physical science, or who may have rendered distinguished service to the Association.

9. No Fellow shall be entitled to any vote, or any further privilege than that of attending the Annual General Meetings, and of receiving copies (not exceeding twenty-five in number) of any memoir or communication of his own printed by the Association. Every Fellow shall cease to be such member upon a Resolution to that effect passed in General Meeting.

PUBLICATIONS.

10. A journal, under the title of the *Journal of the British Dental Association*, shall be published monthly (or more or less frequently as the case may be) in London by the Association, and shall be conducted by one or more editors, or by a Committee, who shall be responsible for all that appears in its pages, except such matters as may be printed by direction of the Representative Board. The *Journal* shall contain papers on Dental science, and shall be considered the medium of communication between Members of the Association. In it shall be inserted all notices of places and times of meetings of the Association, which notices, if published seven days before such meeting, shall be sufficient, and any other Association business which the Representative Board require to be inserted therein. Transactions may be published occasionally, if the funds of the Association permit. Once in every year, a list of the Members and Fellows, and their addresses, shall be published in the *Journal*.

GENERAL MEETINGS.

11. The first General Meeting shall be held at London on or before the 13th day of August, 1880.

12. Subsequent General Meetings shall be held once in every year, commencing with the year 1881, at such time and place as may be prescribed by the Association in General Meeting; and if no time or place is so prescribed, a

General Meeting shall be held on the 20th day of August in every year, commencing as aforesaid, at such place as may be determined by the Representative Board.

13. The above-mentioned first General Meeting and subsequent Annual General Meetings shall be called Ordinary Meetings, and all other General Meetings shall be called Extraordinary.

14. The Representative Board may, whenever they think fit, and they shall upon a requisition made in writing by any twenty-five or more Members, convene an Extraordinary General Meeting.

15. Any requisition made by the Members shall express the object of the Meeting proposed to be called, and shall be left at the Registered Office of the Association.

16. Upon the receipt of such requisition, the Representative Board shall forthwith proceed to convene a General Meeting, and if they do not so within twenty-one days from the date of the requisition, any twenty-five Members may themselves convene a meeting.

PROCEEDINGS AT GENERAL MEETINGS.

17. Seven days' notice at the least, specifying the place, the day, and the hour of meeting, and, in case of special business, the general nature of such business shall be given to the Members in manner hereinafter mentioned, or in such other manner (if any) as may be prescribed by the Representative Board, but the non-receipt of such notice by any Member shall not invalidate the proceedings at any General Meeting.

18. All business that is transacted at an Extraordinary Meeting, and also all business that is transacted at an Ordinary Meeting, with the exception of scientific and professional discussions and addresses, and the consideration of the accounts, balance sheets, and the ordinary reports of the Representative Board and the Business Committee, and the other routine business of the Association, shall be deemed special.

19. No business shall be transacted at any meeting un-

less a quorum of Members is present at the commencement of such business, and such quorum shall not be less than twelve.

20. If within one hour from the time appointed for the meeting a quorum of Members is not present, the meeting, if convened upon the requisition of Members, shall be dissolved. In any other case it shall stand adjourned to the same day in the following month, at the same time and place; and if at such adjourned meeting a quorum of Members is not present, it shall be adjourned *sine die*.

21. The President of the Association (to be appointed as hereinafter mentioned), or, in his absence, The President of the Representative Board (to be appointed as hereinafter mentioned), shall preside as Chairman at every General Meeting of the Association.

22. If at any meeting, the President, or President of the Representative Board, is not present within fifteen minutes after the time appointed for holding the same, the Members present shall choose some one of their number to preside as Chairman.

23. The Chairman may, with the consent of the meeting, adjourn any business from time to time, and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.

24. At a General Meeting, unless a poll is demanded by at least twelve Members, a declaration by the Chairman that a resolution has been carried, and an entry to that effect in the book of proceedings of the Association shall be sufficient evidence of the fact without proof of the number or proportion of the votes recorded in favour of or against any such resolution.

25. If a poll be demanded in manner aforesaid, the same shall be taken in such manner as the Chairman directs, and the result of such poll shall be deemed to be the resolution of the Association in General Meeting. In case of an equality of votes at any General Meeting, the Chairman shall be entitled to a second or casting vote.

REPRESENTATIVE BOARD.

26. The business of the Association shall be managed by the Representative Board, and the respective constitution, duties, powers, and modes of procedure of the Representative Board, shall be determined on from time to time by the Association in General Meeting. Until the first Representative Board is appointed, the members of the Representative Board of the unincorporated body called by the same name shall, subject to their conforming with the conditions of Membership required by Article 4, be deemed to be the Representative Board.

BRANCHES.

27. For the wider diffusion of the benefits of the Association, members may form themselves into separate bodies to be styled Branches. Branches shall be so constituted and shall have such powers and privileges, and be subject to such obligations, as shall be determined on from time to time by the Association in General Meeting.

OFFICERS.

28. There shall be the following Officers of the Association, viz.: a President of the Association, a President Elect, Vice-Presidents, a President and Vice-President of the Representative Board, a Treasurer, an Editor or Editors of the *Journal*, an Honorary Secretary, and a Secretary, who respectively shall be designated or elected, and hold office for such period, and have and enjoy such duties, powers and privileges, and as to the Editor of the *Journal* and Secretary, receive such emoluments, as shall be determined from time to time by the Association in General Meeting.

VOTES OF MEMBERS.

29. Every member shall have one vote, and no more. No member shall be entitled to vote at any Meeting unless all moneys which at the time of such Meeting shall have been due from him to the Association for more than one year, shall have been paid.

NOTICES.

30. A notice may be served by the Association upon any Member, either personally or by sending it through the post in a prepaid letter, or by a copy of the journal in which

such notice is printed, addressed to such member at his registered place of abode.

31. Any notice if served by post, shall be deemed to have been served at the time when the letter containing the same would be delivered in the ordinary course of the post, and in proving such service it shall be sufficient to prove that the letter containing the notice was properly addressed and put into the Post Office.

WINDING UP.

32. The Association shall be wound up voluntarily whenever a special Resolution, as defined by the Companies Act (1862) is passed, requiring the Association to be wound up voluntarily.

NAMES, ADDRESSES, AND DESCRIPTIONS OF SUBSCRIBERS.

NAMES.	ADDRESSES.	DESCRIPTIONS.
Geo. A. Ibbetson	Hanover Sq., W.	F.R.C.S., L.D.S.Eng.
Edwin Saunders	George St., W.	F.R.C.S.
Thos. Underwood	Bedford Sq., W.C.	L.D.S.Eng.
James Parkinson	Sackville St., W.	L.D.S.Eng.
T. A. Rogers	Endsleigh St., W.C.	M.R.C.S., L.D.S.Eng.
J. S. Turner	George St., W.	M.R.C.S., L.D.S.Eng.
John Tomes	Cavendish Sq., W.	F.R.S., M.R.C.S., L.D.S.Eng.

Witness to the above signatures,

Dated the day of 188

List of the Members of the British Dental Association.

Ackery, J.	Ball, G. R.
Albert, John G.	Barrett, Ashley
Alexander, A. B.	Barrett, H. J.
Anderson, A. E.	Bate, C. S.
Apperly, E.	Bateman, G. W.
Arnott, J.	Baly, C.
Ash, E. T.	Beavis, G.
Ashworth, H.	Bell, M. L.
	Bell, R. J.
Bacon, L. W.	Belsey, R.
Balcomb, L.	Bennett, W. S.
Balding, E.	Bennett, F. J.
Balkwill, T. H.	Betts, E. G.
Ball, Edwin	Beyers, H. A.

Black, G.
Boulton, R. B.
Bradshaw, R.
Bridges, T. B.
Bromley, C. H.
Brooks, R. H.
Browne, R.
Brownlie.
Brunton, G.
Buchanan, G.
Buckley, T.
Bulcock, J. H.
Bull, G. R.
Bullin, F.

Campbell, W.
Campion, H.
Canton, F.
Canton, Arthur
Carmichael, J. W.
Cave, J. S.
Cave, F. C. B.
Cheney, W. J.
Clare, E. M.
Clarke, F. M.
Cockburn, W. F.
Coleman, A.
Coles, J. O.
Collins, J. J.
Connacher, D. J.
Corke, H. C.
Cormack, D.
Cox, E.
Crabtree, E.
Crapper, J. S.
Crombie, P.
Cronin, A.
Cunningham, C. M.

Daish, W. G.
Daish, W. H.
Dally, F.
Dalton, C. J.
Danks, J. A.
De Lersert, A. A.
Dennant, J.
Dilcock, S.

Donovan, F.
Dopson, D.
Drabble, R. C.
Dreschfeldt, L.
Dykes, Thos.
Dykes, William

East, A. J.
Evans, H.

Fisher, W. M.
Fletcher, D. J. G.
Fletcher, L. B.
Foran, J. C.
Forster, G. G.
Forsyth, W. F.
Fort, J. W.
Forty, J.
Foster, J. A.
Fothergill, E.
Fothergill, A.
Fothergill, J. A.
Fothergill, W.
Frost, G.
Fox, S. B.
Fox, W. A.

Gabele, A.
Gaddes, T.
Galloway, J.
Gamble, J. G.
Garland, T. G. F.
Gartley, J. A.
Geekie, W.
Gibbings, A.
Gillies, D.
Goddard, W.
Gopel, J. R.
Goy, J. D.
Grayson, F. C.
Grayson, A. E.
Greenfield, J.
Gregory, E. J.
Gregson, G.
Halliday, M. W.
Halliday, H.
Hammond, G.

Harding, W. E.
 Harding, T. H. G.
 Harding, G. H.
 Harrison, R.
 Hatfield, J. H.
 Hayward, W. H.
 Hedgeland, J. H.
 Hele, W.
 Helfrich, R.
 Helyar, H.
 Henry, W. F.
 Henry, M.
 Henry, G.
 Hepburn, D. S.
 Hepburn, D.
 Hepburn, D.
 Hepburn, R.
 Hill, A.
 Hinchliff, W. O.
 Hinds, J.
 Hockley, A. G.
 Hopkinson, R.
 Horton, J.
 Huet, F. A.
 Hugo, S. G.
 Humble, J. M.
 Hunt, W.
 Hutchinson, S. J.
 Hutchinson, H. A.

 Ibbetson, G. A.
 Imrie, W.

 Jackson, B. S.
 Jackson, J.
 Jepson, A.
 Johnson, M.
 Jones, W. H. H.

 Karran, J.
 Keeling, G. R.
 Keeling, G. R., Junr.
 Kelly, W.
 Kelly, T. M.
 Kempton, H. T. K.
 King, R.
 King, T. E.

King, C.
 Knott, E. H.
 Kyan, J. H.

 Ladmore, E. J.
 Levason, A. G.
 Lindsey, J. B.
 Littleboy, A. L.
 Lloyd, J. W.
 Longford, J. H.
 Longhurst, S.
 Longhurst, H. B.
 Lord, S.
 Lucas, G. J.
 Lyddon, G.

 MacGregor, A.
 MacGregor, M.
 Mackenzie, F. V.
 Macleod, W. B.
 Magor, M.
 Mahonie, T.
 Maitland, L.
 Mallan, G. P.
 Mallet, G.
 Manton, J. N.
 Mara, E. J.
 Margetson, W.
 Martin, J. H., M.D.
 Matheson, L.
 Matthew, C.
 Matthews, A. M.
 Marsh, W.
 Mason, J. T. B.
 Mc Adam, G. C.
 McIntosh, J. D. W.
 Medwin, A. G.
 Melrose, E.
 Merryweather, D., M.D.
 Millington, H. F.
 Moon, H.
 Morison, J. C.
 Mosley, G.
 Mummery, J. R.
 Murphy, T.
 Murphy, J. E.
 Musgrove, J. J.

Newman, W. J.
 Nicol, W. H.
 Nicol, J. M.
 Nightingale, C. G.
 Northover, T. H.

O'Donoghue, J.
 O'Duffy, J.
 Offord, J. S.
 O'Hara, W. J.
 Ollivere, J. F.
 O'Mera, A.
 Orphoot, P., M.D.
 Owen, R.

Palmer, J. E.
 Palmer, T. W. G.
 Parkinson, J.
 Parkinson, G. F.
 Parkinson, G. W.
 Parson, W. M.
 Parson, T. C.
 Partridge, H. F.
 Payne, G. W.
 Peacock, C. J.
 Pearman, G. B.
 Pedley, G.
 Petty, F.
 Pillin, L. B.
 Pitowsky, A.
 Platt, L. T.
 Pratt, F. S.
 Pritchard, J. W.

Quinby, H. C.
 Quinby, M.

Read, L.
 Read, H. B.
 Read, W.
 Randell, E.
 Rebone, A.
 Reid, R.
 Richardson, F.
 Ridger, W. H.
 Renshaw, Isaac
 Ritson, J. L.

Ritson, J. J.
 Robertson, W. P.
 Roberts, C. D.
 Roberts, T. A.
 Roberts, J. G.
 Robinson, F.
 Rogers, T. A.
 Rogers, R.
 Rogers, C.
 Rogers, C. C.
 Rogers, W. P.
 Rooke, J. H.
 Rymer, S. L.

Saunders, E.
 Sewill, H.
 Sexton, T.
 Scales, H. F.
 Scott, J. W.
 Sheffield, Isaac
 Sime, G.
 Sims, C.
 Smale, A. M.
 Small, D.
 Smith, J. A.
 Smith, F.
 Smith, E. S.
 Smith, D. J.
 Smyth, S.
 Smyth, Alexander
 Sinclair, C. S.
 Spencer, H. L.
 Steele, J.
 Stewart, R. E.
 Street, G. H.
 Stretton, J.
 Stringfield, W.
 Stirling, J.
 Stocken, J.
 Stokes, C.
 Surene, J. G.
 Sutcliffe, H. W.
 Sutherland, G.
 Swanson, A. J.

Tanner, Thos.
 Thompson, W. S.

Tindall, C.
 Tod, E. W.
 Tomes, J.
 Tomes, C. S.
 Torpey, G.
 Tracey, H. W.
 Turnbull, R. A.
 Turner, J. S.

Underwood, T.
 Underwood, T. F. R.
 Underwood, A. S.

Van, E.
 Vanderpant, F. J.
 Vasey, C.
 Verrier, A. B.
 Vice, W. A.

Waite, W. H.
 Walker, D. J.
 Walker, J.
 Wallis, C.
 Watson, G. W.
 Watson, C.
 Weaver, G.
 Weiss, F.
 Welch, J. E.
 Wells, A.
 Wells, J.
 West, C.

Westlake, B.
 Whatford, J. H.
 White, H.
 White, R.
 Whittell, J. H.
 Whittingham, A. W.
 Whyte, J. C.
 Wilkins, T. B.
 Williams, W.
 Williams, G.
 Williamson, W.
 Willis, W. F.
 Willis, W.
 Wilson, A.
 Wilson, G.
 Wilson, J. A.
 Woodburn, W. S.
 Wood, J.
 Wood, W. R.
 Wood, J.
 Woodhouse, A.
 Woodhouse, W. H.
 Woodhouse, R. H.
 Woodruff, W. H.
 Wormald, S.
 Wormald, D. A.

Young, G.
 Young, J. C.
 Youngman, F.

ABERDEEN.—Crombie, P., De Lessert, A. A., Robertson, W. P.,
 Sutherland, G., Williamson, W.

ACCRINGTON.—Crabtree, E.

APPLEDORE.—Pratt, F. T.

AYR.—Sterling, J.

BANBURY.—Brooks, R. H.

BANGOR, N. WALES.—Wilson, J. A.

BATH.—Parkinson, G. F.

BARNSTAPLE.—Pitowsky, A.

BARROW-IN-FURNESS.—Carmichael, J. W.

BELFAST.—Smyth, S.

- BLACKBURN.—Lord, S.
 BOLTON.—Murphy, T., Melrose, E.
 BOSTON.—Smith, E.
 BERWICK-ON-TWEED.—Wells, J.
 BRADFORD.—Galloway, J., Mathews, A. M., Sutcliffe, H. W.
 BIRMINGHAM.—Foster, J. A., Sims, Le.
 BRIGHTON.—Ash, E. T., Dennant, J., Knott, E. H., Read, W.,
 Tod, E. M., Tod, E. W., Welch, J. E., Wood, W. R., Wood, J.
 BRISTOL.—Parson, T. C., Parson, W. M., Young, G.
 BURY.—Wormald, D. A.
 BUXTON.—Ball, E.
 CANTERBURY.—Bell, M. L., Bell, R. J.
 CARDIFF.—Boulton, R. B.
 CARLISLE.—Hele, W.
 CHELTENHAM.—Gregory, E. J., Palmer, T. W. G., Rogers, R.
 CHESTER.—Bullin, F., Johnson, M., Ladmore, E. J., Millington,
 H. T.
 CHESTERFIELD.—Smith, F.
 CLIFTON.—
 CLITHERO.—Bulcock, J. H.
 COLCHESTER.—Marsh, W.
 CORK.—Black, G., Ollivere, J. F.
 COVENTRY.—Hinds, J.
 COWES, I. OF WIGHT.—Rogers, W. P.
 CROYDON.—Rymer, S. L., Steele, J.
 DARLINGTON.—Fothergill, W., Fothergill, A., Fothergill, J. A.
 DERBY.—Richardson, F., Murphy, J. E.
 DEWSBURY.—Margetson, W.
 DOVER.—Lindsey, J. B.
 DUBLIN.—Longford, J. H.
 DOUGLAS, ISLE OF MAN.—Clare, E. M., Karran, J.
 DUMFRIES.—Dykes, T., Wood, J.
 DUNDEE.—Campbell, W., Fisher, W. M., Hutchinson, H. A.,
 Sime, G., Smale, D.
 DURHAM.—Forster, G. G.
 EASTBOURNE.—Foran, J. C., Whatford, J. H.
 EDINBURGH.—Hepburn, D., Macleod, W. B., Macgreagor, J. N.,
 Matthew, C., Orphoot, P., M.D., Reid, R., Smith, Dr. J.,
 Surene, J. G., Wilson, A., Watson, G. W.
 EPSOM.—Keeling, G. R., Keeling, G. R., Jun.

EXETER.—Fox, S. B., Hedgeland, J. H., Mason, J. T. B., Sarland, T. G. F.

FOLKESTONE.—Henry, M.

GLASGOW.—Brownlie, J. R., Buchanan, G., Morison, J. C., Sinclair, C. S., Smyth, A., Woodburn, W. S., Whyte, J.

GLOUCESTER.—Cockburn, W. F., Fox, W. H.

GUERNSEY.—Hugo, S. G.

GOSPORT, HANTS.—Cave, J. S.

GRAVESEND.—Lucas, G. J.

HALIFAX.—Willis, W.

HANLEY.—Crappier, J. S., Whittingham, A. W.

HASTINGS.—Henry, G., Jackson, T. S.

HAVERFORDWEST.—Helyar, H.

HEREFORD.—Levason, A. G.

HOLLINWOOD.—Buckley, T., McAdam, G. C.

JERSEY, ST. HELIERS.—Van, E.

KENDAL.—Grayson, A. E., Grayson, F. C., Scales, H. F.

KINGSTON-ON-THAMES.—Vanderpant, F. J.

LANCASTER.—Fort, J. W.

LEAMINGTON.—Jepson, A.

LEEDS.—Brunton, C., Humble, J. M., Nicol, W. H., Nicol, J. M.

LEICESTER.—O'Hara, J. W., Vice, W. A.

LINCOLN.—Goy, J. D., White, H.

LIVERPOOL.—Dilcock, T., Dopson, D., Gospel, J. R., Lloyd, J. W., Musgrave, J. J., Newman, W. J., Quinby, H. C., Quinby, M., Roberts, J. G., Stewart, R. E., Tindall, C., Waite, W. H.

LONDON.—Albert, J. G., Arnott, J., Alexander, A. B., Ackery, J., Barrett, Ashley, Barrett, H. J., Bateman, G. W., Belsey, R., Balding, E., Baly, C., Bradshaw, R., Bennett, F. J., Bennett, W. S., Betts, E. G., Coleman, A., Canton, F., Cronin, A., Corke, H. C., Connacher, D. J., Cormack, D., Coles, J. Oakley, Canton, A., Danks, J. A., Donovan, F., East, A. E., Fletcher, J. B., Forsyth, W. F., Forty, J., Frost, G., Gartley, J. A., Gibbings, A., Gaddes, T., Greenfield, J., Gregson, G., Hutchinson, S. J., Hinchliff, W. O., Harding, T. H. G., Halliday, H., Helfrich, R., Hepburn, R., Hepburn D., Halliday, M. W., Hill, A., Henry, W. F., Harding, G. H., Hammond, G., Harrison, R., Hockley, A. G., Hatfield, J. H., Ibbetson, G. A., Jones, W. H. H., Johnson, W. S., Kempton, H. T. K., King, C., Longhurst, S., Longhurst, H. B., Moon, H., Mallan, G. P., McIntosh, J. D. W., Mummery, J. R., Medwin, A. G., MacKenzie, F. V., Maitland, L., MacGregor, A., Northover, T. H.,

O'Duffy, J., Parkinson, J., Parkinson, G. W., Pedley, G., Payne, S. W., Partridge, H. F., Pillin, L. B., Pritchard, J. W., Roberts, C. D., Rogers, T. A., Reboul, A. P., Rogers, C., Read, L., Roberts, T. A., Rogers, C. C., Rooke, J. H., Ritson, J. L., Robinson, F., Read, H. B., Ritson, J. J., Randell, E., Saunders, E., Sewill, H., Spencer, H. L., Sexton, T., Swanson, A. J., Smale, A. M., Scott, J. W., Smith, J. A., Stocken, J., Sheffield, J., Tomes, J. Tomes, C. S., Turner, J. S., Torpey, Underwood, T., Underwood, T. F. K., Underwood, A. S., Vasey, C., Woodhouse, A., Woodhouse, W. H., Woodhouse, R. H., Walker, Dr. J., Willis, W. F., Weiss, F., West, C., Weaver, G., Williams, G., Wallis, C. J., Wilson, G., Watson, C., Williams, W., Woodruff, W. H.

LONDONDERRY.—Gillies, D.

LOWESTOFT.—Stringfield, W.

MAIDSTONE.—Anderson, A. E.

MANCHESTER.—Ashworth, H., Campion, H., Cheney, W. J., Dykes, W., Dreschfeldt, L., Huet, F. A., Horton, J., Kelly, W., Kelly, T. M., Matheson, L., Tamer, Thos.

MONTE VIDEO.—O'Donoghue, J.

NEWBURY.—Mallet, G.

NEWCASTLE-ON-TYNE.—Fothergill, E.

NEWPORT, MON.—Beavis, G.

NORTHAMPTON.—Wilkins, T. B.

NOTTINGHAM.—Goddard, W., Hepburn, D. S.

NORWICH.—Littleboy, A. L., Offord, J. S., Waite, R.

OXFORD.—Bever, H. A., Geakie, W.

PAISLEY.—Walker, J.

PARIS.—Imrie, W.

PENRITH.—Jackson, B. S.

PENZANCE.—Magor, M.

PETERBOROUGH.—Palmer, J. E.

PORISMOOTH.—Martin, J. H., M.D.

PRESTON.—Cox, E., Kyan, J. H.

PLYMOUTH.—Bate, C. Spence., Balkwill, F. H.

READING.—Lyddon, G., Petty, F.

RED HILL, SURREY.—Gabell, A.

RICHMOND, SURREY.—Clarke, T. M., Street, G. H.

ROCHDALE.—Renshaw, I.

RYDE, ISLE OF WIGHT.—Daish, W. G., Daish, W. H.

ST. HILIER, JERSEY.—Balcomb, T.

SALFORD, MANCHESTER.—Hopkinson, R.

- SCARBOROUGH.—Mara, E. J., Peacock, C. J.
 SHEFFIELD.—Drabble, R. C., Merryweather, Dr., Mahonie, T.,
 Moseley, G., Stokes, C.
 SHREWSBURY.—Harding, W. E., King, R., Nightingale, C. G.
 SIMLA.—O'Mera, A.
 SOUTHAMPTON.—Bromley, C. H.
 STAFFORD.—Bull, G. R., Ball, G. R., Ridge, W. H.
 STIRLING.—Platt, L. T.
 STOCKPORT.—Wormald, S.
 STRATFORD-ON-AVON.—Gamble, J. G.
 STROUD.—Apperly, E.
 SYDNEY, NEW SOUTH WALES.—Fletcher, D. J. G.
 TAVISTOCK.—Browne, R.
 TENBY.—Evans, H.
 TORQUAY.—Pearman, G. B., Turnbull, R. A., Whittell, J. H.,
 Youngman, F.
 TROWBRIDGE.—Hayward, W. H.
 TUNBRIDGE WELLS.—Bacon, J. W.
 WAKEFIELD.—Manton, J. N.
 WARRINGTON.—Young, J. C.
 WEYMOUTH.—Verrier, A. B.
 WHITLEY.—Bridges, T. B.
 WHITEHAVEN.—Dalton, C. J.
 WINDSOR.—Westlake, B.
 WISBEACH, CAMBS.—Cunningham, G.
 WOLVERHAMPTON.—Dally, F., Owen, R.
 WOOLWICH.—Collins, J. J.
 WORCESTER.—Stretton, J., Wells, A.
 YEOVIL.—Hunt, W.
 YORK.—King, T. E.

Midland Counties Branch of the British Dental Association.

TO THE EDITORS OF THE MONTHLY REVIEW OF DENTAL SURGERY.

GENTLEMEN:—I beg to hand you herewith a copy of the Provisional Bye-Laws, which were passed at our meeting in Manchester, on May 5th, also a copy of the circular which we are now issuing to every registered dentist in the Midland Counties.

I remain, gentlemen,

Yours very truly,

W. H. WAITE.
Hon. Sec.

MIDLAND COUNTIES BRANCH OF THE BRITISH DENTAL
ASSOCIATION.

PROVISIONAL BYE-LAWS.

NAME.

The name of the Association is the MIDLAND COUNTIES
BRANCH OF THE BRITISH DENTAL ASSOCIATION.

OBJECTS.

(a) To render assistance as far as possible in carrying
out the Dentists' Act.

(b) The general consideration of subjects affecting the
interests of the Profession.

(c) The reading and discussion of papers on Dental
Surgery and mechanics.

(d) The cultivation of a generous professional spirit
among practitioners throughout the district.

BYE-LAWS.

1. The Association shall meet once every year; the
place of meeting shall be determined by the Association
at the preceding Annual Meeting; but no two Annual
Meetings shall be held in succession at the same town.

2. The Association shall consist of Members and Asso-
ciates. No one shall be eligible for membership who is
not already a member of the British Dental Association.
Any registered practitioner of good character, who does not
conduct his practice by means of the exhibition of Dental
specimens, appliances, or apparatus in an open shop, or in
a window, or in a show-case exposed to public inspection;
or by means of public advertisements or circulars describing
modes of practice, or patented or secret processes; or by
the publication of his professional qualification, or scale of
professional charges, may be admitted as an Associate.
Associates shall be entitled to all the privileges of the
Branch Association, but shall not be entitled to vote, or
hold office therein.

3. Any registered Dental Practitioner who can subscribe
to the conditions laid down in Bye-law 2, and who desires
to be enrolled as an Associate, shall be so enrolled on his

signing a copy of the aforesaid Bye-law, and forwarding it, with the subscription, to the Hon. Secretary or Treasurer, before August 1st, 1880; after which date any registered practitioner not disqualified by any Bye-law, who shall be recommended as eligible by any three members or Associates, may be elected by the Council.

4. The annual subscription to the Association shall be as follows :—

Members	...	...	...	...	Five Shillings.
Associates	...	...	...	...	Ten Shillings.

The subscription to date from the time of election and from the 1st of January in each subsequent year, and to be paid in advance.

5. Any one failing to pay his subscription on or before the 31st of December of the current year, shall cease to enjoy the privileges of the Association. Any one wishing to withdraw from the Association, shall give a written notice to that effect to the Hon. Secretary before the 1st of January on which his subscription becomes due.

6. Should any Member or Associate act in such a manner as that the Council think it necessary his name should be removed from the roll, the Council shall have power to suspend such Member or Associate, and to recommend to a General or Special Meeting his expulsion from the Association. The expulsion of a Member or Associate can only take place at a General or Special Meeting, provided two-thirds of those present vote for it. Fourteen days notice of the intention to propose such resolution shall be given in writing to every Member of the Association.

7. The officers shall consist of a President, Vice-President, Treasurer, and Hon. Secretary, together with a Council of not less than eight members.

8. The President and Vice-President of the Association shall be nominated by the Council, and elected at the Annual Meeting.

9. The Treasurer and Secretary shall be elected from the Members at the Annual Meeting, and at the expiration of their term of office shall be eligible for re-election.

10. The Treasurer of the Association shall receive the subscriptions and other moneys payable to the Association, and discharge all the accounts which have been ordered by the Council to be paid.

11. The duties of the Hon. Secretary shall include being present at the meetings of the Association and Council; recording the respective minutes; conducting the correspondence, and acting generally under the direction of the Council.

12. The Council shall meet not less than three times a year, and in the absence of the President, a chairman shall be appointed by the meeting. The meetings shall be held at such time and place as the Council shall appoint, and five Members shall form a quorum:

13. A Special Meeting of the Council may be called by the President on a requisition signed by not less than eight Members or Associates stating the business for which the Special Meeting is required. No other business shall be transacted at such Meeting excepting that for which it has been called.

14. After the Members of the Council elected at the first General Meeting have held office for two years, three Members shall retire annually. The vacancies thus created shall be filled up at the Annual General Meeting of the Association. Retiring members of the Council shall be eligible for re-election.

15. The Council shall manage the general affairs and business of the Association, except as otherwise provided by the Bye-laws. They shall also regulate the order of business, and shall nominate the readers of addresses at each Annual Meeting.

16. The officers of the British Dental Association shall, for the time being, be *ex-officio* Hon. Members of this Association.

17. No Bye-laws shall be altered or repealed, or any new Bye-laws adopted, except at the Annual General Meeting; nor unless a written notice of the terms thereof be sent to

the Hon. Secretary at least one month before the Annual Meeting.

- 18. In case of the death, resignation, or incapacity of any Officer of the Association, the Council may appoint a successor, who shall hold office until the next Annual Meeting.

FORM OF DECLARATION.

I hereby accept the conditions laid down in foregoing Bye-laws, Nos. 2, 3, and 4, and desire to be enrolled as an Associate of the Midland Branch of the British Dental Association.

(Signed)

Date

Address.....

W. H. WAITE, <i>Hon. Sec.,</i>	S. WORMALD, <i>Treasurer,</i>
10, Oxford Street,	20, Wellington Road,
Liverpool:	Stockport.

SECRETARY'S LETTER.

DEAR SIR,—At a Meeting of Members of the British Dental Association, held in Manchester, May 5th, 1880, a Branch of the Association was formed, to include the following Counties, viz. :

LANCASHIRE,	WEST RIDING YORKSHIRE,	NOTTINGHAMSHIRE,
CHESHIRE,	STAFFORDSHIRE,	<i>and</i>
SHROPSHIRE,	DERBYSHIRE,	LEICESTERSHIRE.

The object of forming the Branch is to extend and strengthen the influence of the British Dental Association, by drawing together in their own district, Members of the Profession who might otherwise be unable to take an active interest in the objects of the Association.

It will be seen by the Bye-laws, that provision has been made for admitting as Associates of the Branch, all registered Dentists who are willing to accept the conditions, if they do not at present feel disposed to become full Members of the British Dental Association; and it is hoped that, by this means, many will be encouraged to avail themselves of the opportunities which will be thus afforded

them for the cultivation of professional knowledge and intercourse.

Should you not feel disposed to become a Member of the Branch by joining the British Dental Association, I should be happy to enrol you as an Associate, on receipt of the accompanying Bye-laws, duly signed, and also your subscription for the current year.

I am, dear Sir, Yours very truly,
W. H. WAITE, *Hon. Sec.*

Liverpool Dental Hospital.

His worship the Mayor (Alderman Bernard Hall) formally opened the new premises of the Liverpool Dental Hospital in Mount pleasant, on the 15th of April. Although the Hospital has been located in its new abode for some months, no official recognition has taken place of its removal from Russell street, and this defect the managers of the institution have now rectified. His worship was met in the entrance hall by Captain W. J. Newman, the founder of the institution; Major Stewart, and Dr. Kisch, who showed him over the various rooms. The institution was established for the purpose of affording to the poorer classes gratuitous advice and surgical aid in all diseases pertaining to Dental Surgery, and yesterday morning, both on the male and the female sides, there was a large number of patients; and the Mayor had thus an opportunity of judging of the usefulness and popularity of the hospital. Patients are admitted from 8.30 till 10 o'clock in the morning, and from 6 till 7 o'clock in the evening, and at present the institution has only four operating chairs, and these include an antiquated arm chair, which was the first property of the Hospital. There are seven pupils connected with the establishment, and the officers feel that with increased accommodation the advantages of the institution will be still more recognized, and deserving of increased public support. After a perambulation of the rooms, the business of the meeting took place in the committee room up stairs, where there were present, besides the gentlemen already mentioned, Dr. Dawson, Messrs. A. B. G. Rogers, Edward Grindly, D. Marples, W. T. Bryan, J. G. Jacobs, F. F. Brakell, B. W. Rowson, and T. F. Austin.

Dr. Kisch said that before asking his worship to formally announce the opening of the Hospital, he had to express to him the thanks of the Committee for his great kindness in attending on that occasion, and giving them the encouragement and support of his official presence. Dr. Kisch then narrated the origin and progress of the institution, and spoke of its claim to public consideration as one of Liverpool's most useful

charities. It was now nearly twenty years since Mr. W. J. Newman first conceived the idea of giving to the poorer classes the advantage of the higher branches of Dental Surgery, not only in extraction, but in the preservation of those most indispensable aids to health, the teeth. Mr. Newman, for a period of three years, persevered unaided in his laudable endeavours in a small room in Russell street. But finding that the public necessities were rapidly exceeding the accommodation then existing, he was joined by Messrs. R. E. Stewart and T. F. Austin, and to the exertions and self-denying labours of these gentlemen must be attributed the foundation and success of this Hospital. Through the kindness and public spirit of his worship's predecessors in office, who had always shown a lively interest in its success, the institution had grown from its humble origin to the comparatively important position which it now occupied, they having from year to year contributed to the building fund. In addition to the liberality thus shown, they had also the advantage of the generous contribution of £500 from the Lyon Jones bequest, through the kindness of Mr. Edward Whitley, their present respected parliamentary representative. With the encouragement thus given, they ventured to purchase the building they now occupied, which was believed to be most central, and in every way suitable for the purpose, with one exception, which was neither useful nor ornamental, viz., a mortgage of £900, which they were most anxious to remove, and hoped, through the kindness of their friends and the public, to be enabled to liquidate. Dr. Kisch then asked his worship to declare the building formally opened for poor patients.

The Mayor said he was sure he felt it to be a great honour to be present on so important an occasion. His short glance at the institution had convinced him of its great usefulness to the poor. There were few of them who had not suffered from the torments of the toothache, and the poor, they knew, suffered intensely in this way, without either having the time or the money to obtain relief. He knew of no institution more useful in that respect. The greatest credit was due to those gentlemen who first initiated it, and to show them his cordial approval and sympathy, he should be glad to subscribe twenty guineas, for the purpose of purchasing an operating chair. He had much pleasure in declaring the Institution opened.

Major Stewart, in proposing a vote of thanks to the Mayor, said that the committee were very grateful to his worship for the handsome present he had made to the institution. (Applause.) He had no doubt the gentlemen connected with the hospital would work together as cordially as they had in the past, and he felt certain their efforts would prove a great success. Poor people would now receive that relief which they needed, and the institution was capable of accommodating a far larger number of patients. They appreciated the honour of the Mayor's presence very much; and on behalf of the committee and the dental staff, he begged to thank his worship.

Mr. Councillor Grindley seconded the proposition, which was carried unanimously.

The Mayor having replied, the proceedings terminated.—*Liverpool Mercury*.

Odontological Society of Great Britain.

At the Ordinary Monthly Meeting, June 7th, ALFRED WOODHOUSE, Esq., President, in the chair,

Dr. WALKER related the case of a patient with hæmorrhagic diathesis, who had been recently under his care at the Westminster Hospital. He was a night watchman, aged 38; had always bled freely from slight wounds, as in shaving, and when young was subject to profuse epistaxis. At 19 years of age he had a second upper molar extracted, the fang broke off, and he was laid up for a week on account of hæmorrhage: the actual cautery was used. When 33 years of age, the first upper molar on the same (left) side was extracted at St. Thomas' Hospital; it was also broken. Bleeding went on at intervals for seven weeks; he was an in-patient for five weeks: the actual cautery was applied repeatedly, as well as perchloride of iron in solution and in crystals. For six or eight months after this he suffered from occasional bleeding, sometimes profuse, from this spot, and slight occasional hæmorrhage had continued till quite recently. During the night of February 27th, a sort of tumour formed on the gum at the seat of the extractions, accompanied by some pain and tenderness. On March 3rd he was seen by Dr. Walker and Mr. Gould. The tumour was found projecting in front of the wisdom tooth; it was about the size of a cherry, dark, and rather soft. Next day it burst, and "about a cupful" of blood and pus escaped. The patient came again to Dr. Walker the following week; all that now remained of the tumour was some shrivelled mucous membrane and blood clots. Dr. Walker extracted the stump of the second molar and the wisdom tooth, which was very carious. Patient was taken into the Hospital, and plugs of wool soaked in Liq. Fer.

Perchlor. were inserted into the sockets. Bleeding came on next day, but was arrested by the insertion of fresh plugs. During the next few days slight oozing occurred once or twice. The patient was discharged at the end of a week, and attended several times as an out-patient, but had no further hæmorrhage.

MR. CHARTERS WHITE had always found perchloride of iron a very uncertain hæmostatic. He had obtained far more satisfactory results from the use of Richardson's styptic colloid.

The PRESIDENT said he quite agreed with Mr. Charters White in thinking the styptic colloid a very useful preparation.

The SECRETARY showed a flask of simple but very ingenious construction, made by Mr. Bedmore, of Exeter.

MR. PERCY MAY showed a model of the mouth of a patient 18 years of age, which presented the following peculiarities. The temporary incisors had been removed when the patient was ten years old. Some years after two supernumerary incisors were erupted; then, a few months ago, an odontome appeared, but the true permanent incisors were only now coming through. Mr. May had removed the odontome and supernumerary teeth, in order to make room for those in process of eruption.

MR. E. CANTON then related some cases in which carious teeth had been the unsuspected cause of serious illness. Imperfect mastication of food was a well-known cause of diarrhoea, but it did not appear to be generally recognised that habitual constipation might be due to this cause. Mr. Canton had met with many examples of this. One gentleman, aged 40, was brought to him on account of supposed disease of the rectum. He suffered from most obstinate constipation, had great difficulty in emptying the rectum, and even after the bowels had acted freely, had a feeling as if something remained behind. Mr. Canton could find no stricture of the rectum, but he found that the patient had lost his lower molars on both sides. He recommended a lower denture; the advice was followed,

the patient needed no more purging, and had no more trouble about his rectum.

A lady, aged 40, was brought to Mr. Canton, for an enlargement of the spleen. She was pale and thin, and had suffered much from deranged digestion. She had a large lump on the left side of the abdomen, but a careful examination satisfied Mr. Canton that this was not due to an enlarged spleen, but to an enormous accumulation of fæces in the descending colon. He therefore recommended a course of purgatives, but these scarcely made any impression on the mass, and the medical attendant had to empty the rectum with a spoon, removing a quantity of hard scibila, which he said "fell on the floor like brick bats." In this case proper mastication was impossible, from the state of the teeth. This want was supplied, the purgatives were continued for some time, and the patient recovered her health perfectly. Among other things, this lady complained of numbness of the left leg, due to pressure on the sciatic nerve, by the hard mass of fæces in the sigmoid flexure and rectum, and and this led him to remark that bad teeth, imperfect mastication, and consequent constipation, were very common causes of sciatica. The sigmoid flexure and the rectum passed down to the left of the middle line, and sciatica was most common on that side. In such cases he was in the habit of ordering the following pills:—

R Calomelanos, gr. x,
Ol Tiglii,, gtt. i.
Micæ panis qs.
Misce—Ft. pil. ii.

The second to be taken six or seven hours after the first. A frequent result of this treatment was to bring away a large collection of fæces, even when no accumulation had previously been suspected, and to cure the patient for the time. But as faulty mastication is the primary cause, the only *lasting cure* is a good set of teeth.

In the following case the same causes produced very different results. Mr. Canton was asked to see a gentle-

man, living at Brixton, who had previously consulted him on account of habitual constipation, and had been entirely relieved by taking some dinner pills which were then prescribed. He was now suffering from clonic spasm of the muscles of the front and inner side of the thigh. His general health was good; there was no other symptom of nervous disease, and the spasms affected only the muscles supplied by the anterior crural nerve. Mr. Canton therefore looked for a local cause, and found a hard, dull swelling in the right iliac fossa. The patient, thinking himself cured, had left off his pills, and a gradual accumulation of fæces in the cæcum had been the result; a course of purgatives brought away an enormous amount of solid fæces, as the cæcum was emptied, the spasms gradually passed off, and the patient got perfectly well. This patient also had no teeth, and this was the real cause of all his trouble.

Bad teeth, or the absence of teeth, often caused a general state of weakness from imperfect nutrition, which rendered the patient an easy prey to any illness by which he might be attacked. In women, also, this low state of nutrition might be a cause of barrenness. Thus, a young lady, who had been married some time, but had no family, was brought to Mr. Canton by her husband: she complained of nervousness, indigestion, bad nights, and constant lassitude and debility. On looking into her mouth, Mr. Canton found her teeth were very bad; he advised her to have a set made; this was done, the lady got stout and strong, soon became pregnant, and had eventually several children. Another case was that of a gentleman, aged 45, who had consulted several physicians, and was said to be dying of "atrophy." Having consulted Mr. Canton some year's previously, he now came to him again, but evidently without much expectation of benefit. Mr. Canton could find no signs of organic disease, but the patient's teeth were quite useless for mastication; he therefore advised him to have some teeth made. Some time after, the patient returned quite restored to health: he had taken no medicine,

but got the teeth, and by careful attention to diet, &c., had gradually recovered flesh and strength.

Mr. CANTON concluded by relating some cases confirmatory of the conclusions arrived at by Dr. Brunton in his paper lately read before the Society. In one instance, a boy, aged 19, was cured of epilepsy by exposing the crown of a retarded wisdom tooth; and in another case, paralysis of the left leg in a young lady, appeared to be due to a similar cause.

The PRESIDENT suggested, that as Mr. Mummery was about to read a paper on a kindred subject, it would be better to postpone the discussion on Mr. Canton's very interesting series of cases, and to discuss the two papers together. He therefore called upon Mr. Mummery to read his paper on some cases of nervous affections originating from diseases of the teeth.

Mr. MUMMERY was consulted in January 1878, by a young lady, on account of severe neuralgic pain affecting the left side of the face. Some months previously, the left first upper molar had been filled with amalgam by a country practitioner; the patient had experienced much pain ever since, and had also become subject to external strabismus of the left eye, the pupil being entirely hidden from view. Mr. Mummery removed the stopping, and finding the pulp exposed, applied arsenic and cleared out the roots. This relieved the pain, but as no alteration had taken place in the position of the eye, Mr. Mummery felt compelled to extract the tooth. On the fourth day after the operation, the eye had perfectly recovered its natural position. A few days afterwards, the patient was suddenly obliged to leave London, and when she returned in the following November, Mr. Mummery found that the previous symptoms had returned with increased severity. During her first visit to town, Mr. Mummery had detected a small cavity in the second molar, and had filled it temporarily with Hill's stopping, but the patient's sudden departure prevented anything further being done. She was now suffering, as before, from severe facial neuralgia, she had

ptosis of the left eye, and on raising the lid, the pupil was found to be widely dilated; the patient's hair, of a dark brown colour, had become perfectly blanched to the extent of fully two inches on the left temple. Mr. Mummery at once removed the tooth; by the fourth day the eye had quite recovered its normal appearance, the pain gradually disappeared, but the patient still retained the patch of white hair on her left temple. On splitting open the tooth, the pulp of the palatal root was found to be completely calcified from the apex to its contact with the still living coronal pulp, which, with that of the buccal roots, was highly congested. Mr. Mummery was inclined to attribute the severity of the symptoms to the irritation caused by the pressure of the calcified portion of the pulp upon the living portion.

Mr. MUMMERY then related the case of a lady who was sent to him on account of agonizing pain in the right ear, accompanied by absolute deafness on the same side; extraction of a carious right lower wisdom tooth put an end to the pain, and within a month after the operation the patient completely regained her hearing. A gentleman of tall stature and fine physique, but much emaciated and weakened by suffering, consulted Mr. Mummery on account of severe pain on the left side of the face and head; he had been unable to sleep, except under the influence of narcotics, for four months, and nothing that had been tried had afforded any lasting relief. He had a remarkably fine set of teeth; they had been repeatedly examined, but no fault could be found with any of them. Mr. Mummery, however, detected slight sensitiveness on percussion in the left canine and lateral, and after polishing them carefully and using a strong reflected light, he was able to perceive a slight opacity on the distal side of the lateral incisor; owing however to the overlapping of the canine, no probe could reach the place of the suspected caries. Mr. Mummery extracted the incisor and, just at the point where it touched the canine, he found a very minute cavity exposing the pulp; the patient experienced immediate and permanent relief.

Mr. MUMMERY then related some cases in which severe reflex disturbance had arisen from the pressure of perfectly sound teeth. A young lady, aged 22, applied to him concerning some incipient caries in a lower molar, and stated incidentally that she had suffered for a long time from "rheumatism," for which she had been treated ineffectually, and had visited German Spas, &c., without benefit. She suffered from pain throughout the branches of the fifth nerves, tenderness over the cervical spinous processes, and a feeling of weakness in the arms. On examining the patient's mouth, Mr. Mummery found that the lower wisdom teeth were imperfectly erupted, owing to want of space, and that the upper third molars were directed obliquely outwards for the same reason. He advised the removal of all four of the teeth; this was done, and within a few weeks every trace of the supposed rheumatic affection had entirely disappeared. There was no trace of caries on any of the teeth.

A young lady, who had always been healthy and cheerful, became at 16 years of age subject to headache, complained of dull aching pain in both jaws, and was depressed and taciturn. Her teeth were perfectly free from caries, but very closely impacted, and on pushing a sharp probe through the gum behind the second molars, Mr. Mummery could feel the crowns of the advancing wisdom teeth. Repeated lancing gave no relief; at 17 she began to be subject to epileptic fits, and as the case was becoming serious, Mr. Mummery determined to extract the four second molars. The patient had no fits afterwards, she soon recovered her health and cheerfulness, and the wisdom teeth came through without further trouble.

Mr. MUMMERY concluded with some cases in which neuralgia had been set up by exostosis of the roots of otherwise sound teeth: the first molars seemed to be most liable to this of form disease.

He thought that by publishing the accumulated testimony of observers in regard to the reflex morbid influence of diseases of the teeth, a clearer light might be thrown

upon many obscure cases which baffled the skill of able medical practitioners, and that much practical good might thus be effected.

DR. BELLISARIO, of Sydney, said the following case resembled one of those related by Mr. Canton, except that the arm was afflicted instead of the leg. A young lady, aged 25, came to him complaining of a severe pain in the right side of her face, and stated also, that her right arm had been paralyzed for seven months. She had large fine teeth, but the right lower wisdom tooth was absent. On exploring, Dr. Bellisario found that the tooth was lying horizontally in the jaw. Under chloroform he removed a portion of the outer plate of the maxilla, and extracted the tooth with a lever. The patient was freed from pain, and gradually recovered the use of her arm.

MR. MOORE asked Mr. Canton at what age he thought it desirable to supply artificial teeth. Children of 12 and 14 years of age were not unfrequently met with, who had lost their molars, would it be advisable to supply teeth at such an age?

MR. STORER BENNETT asked whether Mr. Canton could give any further particulars regarding the lady with paralysis of the leg, more especially as to the result of treatment.

MR. GEO. PEDLEY remarked that in addition to the way in which a proper pounding of the food facilitated digestion, the movements of mastication greatly increased the flow of saliva, and this was also an important factor in perfect digestion.

THE PRESIDENT remarked that probably few people were aware of the quantity of saliva which was poured out during a meal. In a patient with parotid fistula, with whom he was acquainted, two napkins would be saturated in the course of dinner, by the secretion of one salivary gland, and the whole of this was not discharged externally, for part passed into the mouth by the natural channel.

DR. WALKER said he had met with several cases of severe neuralgia due to exostosis, and in one case, a girl aged 19, this was accompanied by partial paraplegia. Several

teeth were extracted, she made a good recovery, and had since married.

Mr. MUMMERY said he should be glad if any one could throw any light on the case of partial calcification of the pulp, which he had related; he had not been able to find a similar case in any published work.

Dr. BELLISARIO said that the only case resembling it, which had come under his notice, was that of an Indian officer on furlough, who came to him on account of severe pain referred to a lower molar. On proceeding to extract it, he found that the tooth was split down the middle, and after its removal, that the pulp was completely calcified. The patient could not in any way account for the tooth being broken, and Dr. Bellisario believed it had been split by the pressure of the calcified mass within.

Mr. CANTON said he could not give much information about the case of leg paralysis, as the patient did not continue under his care. He could not give any age at which it might not be advisable to supply teeth, if the patient was really suffering from the want of them, and could not otherwise be maintained in health.

A vote of thanks was then given to the authors of the papers, and casual communications, and after a few words from the PRESIDENT on the close of the session, the meeting terminated.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

THE *LANCET* AND THE DENTAL PROFESSION.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—Until the *Lancet* learns better manners it is to be hoped that Dental Surgeons who respect the profession, and who are aware—as the *Lancet* ought to be—of the scientific worth of our professional brethren, the Licentiates in Dental Surgery, will refrain from contributing to the

pages of that journal, or of giving it their support in any way. I am sure, sir, you will agree with me that the suggestion contained in the following paragraph from the *Lancet* of to-day (May 29), implies a culpable amount of ignorance on the part of the editor as to the real merits of the question at issue:—"We invite opinions—*of course from qualified Surgeons who are engaged in the practice of Dentistry*—on the subject of tooth extraction and replacement. Under what conditions is it possible to extract the stump of a broken tooth, affix a new crown to it, or otherwise manipulate the structure, perhaps under antiseptic precautions, and to return it to its socket? * * * *
If members of our profession—with whom alone we can discuss a question of Surgery and Physiology—will favour us with concise statements of their opinions on this interesting subject we shall be glad."

It is not necessary to point out that the obvious and sole meaning of this offensive paragraph is, that none but "Surgeons practising Dentistry" are worthy of recognition as legitimate practitioners, and that the editor of the *Lancet* would refuse any contribution from a mere Licentiate in Dental Surgery, however valuable it might be as a scientific exposition of the subject under discussion. I trust, Sir, that we may look to you to enlighten even the editor of the *Lancet* in time, as to the real status and acquirements of these qualified members of the profession, and I trust also, at least, that the unmerited insult which has been gratuitously offered to the majority of the Members of the Association, will not escape the censure it deserves in the columns of our journal.

A SURGEON PRACTISING DENTISTRY.

P.S.—It is gratifying to find that only one Dentist—an American, I believe—has so far (June 5th) responded to the invitation of the Editor of the *Lancet*.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—The subjoined letter has not found admission to the *Lancet*.—Yours faithfully,

HENRY SEWILL.

To the Editor of the LANCET.

SIR,—An annotation in your last issue, inviting the discussion of a subject in Dental Surgery, conveys the impression that you refuse to admit scientific contributions to your columns on this or any other occasion from Dentists who, although holding a Dental diploma, are not fully “qualified” in surgery. The majority of “surgeons practising Dental surgery” are not Members of the Association, so styling itself; they number among them those who, by scientific and other work, have succeeded in placing their profession in its present improved position, and they are not of an opinion similar to that which you seem to express. They recognise the professional status of the licentiates in Dental surgery, and admit them—as they deserve—in every way to full and equal professional intercourse. So far as the mere fulfilment of a curriculum, and the possession of a diploma, can indicate the proper status of a practitioner, there is a vastly greater difference between a M.R.C.S. in general practice and a M.D. London, than between a L.D.S. and a M.R.C.S. practising as a Dentist; yet we never hear now-a-days of a physician with the highest qualifications refusing to co-operate in scientific work with medical practitioners holding inferior diplomas. The expression of an emphatic opinion, such as I interpret your remarks imply, by a journal so influential as the *Lancet*, cannot fail to be of the utmost importance, and I trust the Dental profession may ask that you will be kind enough to explain the grounds upon which you have based your judgment, so that it may be duly weighed by those still earnestly engaged in promoting measures for the further reform and advancement of our department.

Your obedient servant,

6, Wimpole Street.

HENRY SEWILL, M.R.C.S., L.D.S.

June 1st, 1880.

THE LECTURES ON METALLURGY.

TO THE EDITOR OF THE “MONTHLY REVIEW OF DENTAL SURGERY.”

SIR,—I feel sure that all who have ever been connected with the Dental Hospital of London, either in capacity of teacher or pupil, will deeply regret the resignations of the Lecturers on Metallurgy, and on Mechanical Dentistry. Mr. Makins has held the former post from the foundation of the School to the present time, and Mr. Turner the latter post for several years; and it will certainly be difficult to find successors equal to either in their several capacities. My present object in calling attention to this matter is especially in regard to the Lectureship on Metallurgy. I had long believed that the compulsory attendance of the Dental student on a course of metallurgy was a matter of questionable value to the same, and as the attendances on lectures, both special and general, have of late been more strictly insisted on, whilst the practical work has been greatly extended, it did appear to me that the present was a

favourable opportunity for considering the question as to whether the student really received in common terms his *quid pro quo*. I trust I am the very last to underrate the acquisition of any kind of scientific information, but where a certain amount of knowledge has to be acquired in a limited time, it especially becomes those concerned as imparters of the same, to ascertain carefully whether that which is most essential to the student is being supplied, and if in their opinion otherwise, to exert their influence, either to have that of little value eliminated, or substituted by what will prove to him of more value.

At a suitable time and place I expressed the above views, pointing out that in the course of study insisted on by the new examining bodies for a Dental diploma, viz., the Royal College of Surgeons of Edinburgh ; the Faculty of Physicians and Surgeons of Glasgow ; and the Royal College of Surgeons in Ireland ; metallurgy was either included in the course of practical chemistry, or in that of Dental mechanics,—in the hope that the question might have been carefully considered as to whether the Royal College of Surgeons should not be memorialized to make its Dental diploma regulations in this respect conformable with those of the above-named corporations. My observations were, however, met on the threshold, by one who had passed through the prescribed course of the latter body, and with credit to himself, with the statement that the course of lectures in question was the most valuable of any given at our school, and not having had the speaker's advantages, viz., of going through such course of study, I naturally withdrew my proposition. Since then I have canvassed a large number of Dental licentiates, *per curriculo*, and I not only selected those who had distinguished themselves as prizemen at our hospital, but such who had since rendered themselves conspicuous for original work, and their experience appears in direct opposition to the opinion given above. All testify to the ability of the late lecturer—to the pains and care he took in the preparation of his lectures, and to the abundance and success of his experiments, but in regard to information that has proved useful to them in practice, they could have acquired the same, either at the hands of their lecturer on mechanical dentistry, or at the course on practical chemistry. I may have been, in my inquiries, unsuccessful in obtaining a fair average of replies to my queries, which, however, were in each case so put that the questioned could not guess either my own views or motives, and it is on this ground I now write, in the hope I may elicit the opinions of many who can speak on this matter from practical experience, and I think I have authority for stating that the pages of this Journal will ever be open for the fullest and freest expression of opinion, and especially in regard to all matters pertaining to questions of Dental education.

May 20th, 1880.

Yours faithfully,

A MEMBER OF THE MEDICAL COMMITTEE.

[No apology, we feel sure, will be required by our readers for giving insertion to the foregoing communication, from one so well qualified to form an opinion on the important subject of professional education. Since it was in type, however, we have had an opportunity of enquiring at head quarters, and the result of our enquiry is to show that the same option is allowed by the Royal College of Surgeons of England as by those colleges of Scotland and Ireland; and that the lectures in question may be given in either case, in the Chemical or in the Mechanical course. This being the case, it will not be necessary to memorialize the College on the subject, and it only remains for us to commend the timely and well considered observations of our esteemed correspondent to the Committee of the London School of Dental Surgery.—*Ed. M.R.D.S.*]

Fox Testimonial Fund.

The following subscriptions have been received, in addition to the list published in our last issue:—

Burrows, W. S., London	£3	3	0	Knott, E. H., Brighton	1	1	0
Crowther, G. H., Wakefield	1	1	0	Longhurst, G. and B., London	2	2	0
Feltham, R., Brighton...	0	5	0	Magor, M., Penzance ...	0	10	6
Fothergill, A., Darlington.....	1	1	0	Masters, T., Huddersfield	5	5	0
Fothergill, J., Darlington	0	10	6	Read, W., Brighton ...	1	1	0
Fothergill, W., Darlington.....	1	1	0	Reboul, A. P., London	1	1	0
Hayes, J., London	£1	10	0	Turner, W.	2	2	0
				Walker, Gilbert	1	1	0

The total amount received is £124 0s. 6d.

Pratt Fund.

Amounts received to June 9th, 1880:—

Ash & Sons, Messrs. ...	£10	10	0	Julian, J., Esq.	0	10	6
Bartlett, W., Esq.	0	10	0	Parkinson, J., Esq.....	2	2	0
Bennett, Messrs.	1	1	0	Payne, G., Esq.	0	10	6
Coles, J. Oakley, Esq.	5	0	0	Pretty, Messrs.	2	2	0
Connacher, D. J., Esq.	0	10	6	Pedley, G., Esq.	1	1	0
Cronin, A., Esq.....	1	1	0	Read, T., Esq.....	1	1	0
Eskell, A. Clifford, Esq.	1	1	0	Rutterford, Messrs. ...	2	2	0
Fawsett, W., Esq.	2	2	0	Saunders, E., Esq.	5	5	0
Forsyth, W. F., Esq. ...	3	3	0	Stewart, A., Esq.....	1	1	0
Gartley, Alex. L., Esq.	1	1	0	Stocken, J., Esq.....	0	10	6
Gartley, John A., Esq.	5	5	0	Vanderpant, F. J., Esq.	0	10	0
Gray, W., Esq.	2	0	0	Woodhouse, A., Esq. ...	5	5	0
Gregory, W., Esq.	0	5	0				

Annotations.

MEDICAL DISCUSSION IN LAY NEWSPAPERS.

Some correspondence has recently appeared in the *Times* on the subject of "Insensibility of Anæsthetics." The first letter, was from a patient who, relating his experiences during an attempt to render him unconscious by nitrous oxide, for the purpose of extracting a tooth, stated that he had inhaled an enormous quantity of the gas without the production of anæsthesia, and proceeded to comment upon this supposed fact as wonderful, and worthy of record. Whatever the explanation of the occurrence might be,—whether some leakage in the apparatus had allowed such a dilution of the gas with air as to neutralize its effect, or whether the patient had really displayed an extraordinary tolerance of the anæsthetic, it is at least, difficult to know what object the conductors of the *Times* could have in allowing a letter of this kind, containing merely a loose statement of no scientific value, to find a place in their columns; and we quite agree with the *Medical Press and Circular*, that it is to be regretted such letters are not invariably submitted to a responsible medical editor for approval before publication. Such an editor would at once recognise that letters of that kind were not necessary for the enlightenment of the profession, and were calculated to do nothing but confuse, and, perhaps, unnecessarily alarm the uninstructed public. We agree also with our contemporary in deprecating the course adopted in the present instance by certain dental practitioners who, anxious to throw light upon the matter, attempted within the compass of brief letters, to make clear to the public, a difficult physiological problem. Attempts of this kind invariably and of necessity fail, and the letters are practically useless. When the communications are anonymous, they of course, carry little weight, and, on the other hand, when, as in the present instance, writers append their names and addresses, their motives are apt to be viewed with unjust and unfounded suspicion; so that considering the doubtful value under any circumstances of the correspondence, there seems more than sufficient reason why professional men had better abstain altogether from thus discussing purely medical topics in lay newspapers.

SIR JOHN LUBBOCK, BART., M.P., F.R.S., L.L.D., &c.

In our April number, whilst expressing our extreme regret that the above-named gentleman had not been returned as a Parliamentary representative for Maidstone, we ventured to hope that we should soon "see him returned for some other constituency, and ere long for one of our Universities, which we consider him the best fitted to represent." We can, therefore, sincerely rejoice that our hope has been so speedily realised, and that in Sir John being returned without opposition to represent the University of London, a proper compliment has been paid to the claims of science, and that which was discreditable to us as a nation removed.

DEATH FROM ETHIDINE-DICHLORIDE.

We have to record a death, the first that has occurred, from the inhalation of Ethidine-Dichloride—an anæsthetic that has of late found considerable favour in Dental, as well as in other operations, on account of its agreeable flavour. That the agent was administered with the greatest possible care and skill is certified by the fact that the unfortunate occurrence took place under the hands of Mr. Clover, who has, with much consideration and candour, made the whole facts of the case public in a lecture delivered at University College, and which is published in the *British Medical Journal* of the 22nd ult. We intend to return to the question of anæsthetics shortly.

DEATH UNDER ANÆSTHETICS.

It was with regret that we had last month to record another death, occurring under chloroform administered for a Dental operation. Every care and precaution appeared to have been adopted, both in the administration, and in previously ascertaining that the patient was a fit and proper subject for chloroform. We can only express our sympathy with the member of our profession, Mr. C. H. Bromley, of Southampton, under whose hands this distressing circumstance occurred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

George Henry Crowther, son of Mr. G. H. Crowther, of Wakefield, passed the final examination for the diploma of Member on the 20th ult.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. V.

JULY, 1880.

VOL. I.

It has happened that of necessity the early numbers of the Association Journal have been filled up with Association intelligence to an extent which has involved the exclusion of other interesting matter, and for a little while longer this may perhaps continue to be the case. Soon, however, the time will come when our pages will be to a far larger extent free for the discussion of all that pertains to our specialty, and we invite communications in the full assurance that in our pages the experiences and the thoughts of scientific practitioners will find their best means of expression, for while this Journal aims at being essentially scientific, so also does it claim to be essentially practical: there is not and cannot be any antagonism between science and practice. That which we term scientific knowledge differs in no respect from other knowledge, save in that it insists upon accuracy and exactitude of statement, and few will be found to claim that their "practical" knowledge is the better in so far as it falls short of this "scientific" standard of exactitude and accuracy. And there is no better test of clearness of conception upon any particular point, than the putting it into words, nor of its real worthlessness as a guide to

NOTE.—Delay in issue caused by publishing report of the proceedings of General Medical Council.

action, than the impossibility of doing so. The facts which fall within the daily experience of each one of us, observed with intelligence, and recorded with accuracy, would form a fund of knowledge of inestimable value; yet how little do we really know with anything approaching to accuracy, and this is the more a reproach to us in that the organs with which we are concerned are accessible and exposed for inspection in a degree that no other organs of the body are. It is not wholly, nor indeed principally, to those already overweighted with the burden of large practice that we can look for patient, time-consuming observations; these lie more within the grasp of the younger practitioner, and faithfully carried out will bring him the rich laurels of esteem, and the substantial advantages which follow them. It is proposed from time to time to suggest in these pages, subjects for experiment and for observation, and upon them, as also upon any others that may be preferred, we invite communications, only suggesting that they may be well thought out, as brief as is consistent with clearness, and above all, that they may rest on a solid basis of observation.

Progress.

THE progress of our Association, if not so brilliant or so rapid as some ardent and impetuous spirits might desire, is at once steady and assured. The advance has been made step by step, and each "coigne of vantage" made secure before further advance is attempted. And now with the stamp of legal sanction on it, which is conferred by government registration, and by which the liability of each Member is limited to his annual subscription of one guinea, the great work may be regarded as complete; and, like some engineering enterprise which is certified by

the Government Inspector, is now ready to enter on its career of usefulness. Or rather, to state the case with perfect and legal precision, will be ready when our readers, or must we say the Members of the Association (*O si sic omnes!*) shall have appended their signatures to the Articles of Association, as revised, in accordance with suggestions from Somerset House. And here, with some experience of the law's delay, and red-tape obstructiveness, we cannot withhold the meed of praise from those to whose vigilance and persistent energy it is due that there has been no avoidable delay in its accomplishment. Nor can we help admiring the jealous care with which the Legislature watches over the interests of our Members in requiring them again to sign the Articles of Association with full knowledge of the emendations it requires. By the way, there is a clause in Article 4 which may seem superfluous, and we trust it is so, both for the sake of our Honorary Treasurer, and for the credit of Members, but which may remain as a reminder, in the event of such a case presenting itself; we refer to the clause "and has paid all subscriptions due from him." We sincerely hope that additional labour from thoughtlessness on this subject, will not be thrown on those who are generously exerting themselves for the common good.

To our thinking, and we trust that our readers share our conviction, the last number of the *Review* is the most interesting of all those which have been issued under the auspices of the Association. For, in addition to the ordinary amount of contributions of more or less scientific and practical value, it contains two very remarkable documents—one being the full and authentic text of the Memorandum and Articles of Association already referred to, and the other the unreported, but fearless and outspoken tribute, after two years' experience, to the value of the

Dental Act, by Sir John Lubbock. When it is remembered that it was to an audience and on an occasion when no pains had been spared to throw discredit on that measure, it is difficult to over-estimate either the value of the testimony, or the manliness and courage of the accomplished speaker. We trust that the time has now arrived when the futility of further opposition, and the gracelessness of attempts to disparage what, with all its shortcomings, is the only really useful and comprehensive measure which has ever been proposed, will be so apparent as to lead to an abandonment of hostile measures. The fear of the improper use of the word "surgeon" as an adjunct to the word "dentist," which having been in use from time immemorial, it would be idle to attempt to put under ban, is a purely imaginary one, and has done duty quite long enough.

It is just one of those insubstantial allegations which may enjoy an ephemeral existence as long as they are taken upon trust, but which vanish into thin air as soon as they are brought under the strong light of common sense. We distinctly refuse to believe that it ever was or could be a practice, even in the pre-Lubbock period, when there was no restriction for any one to enter the surgical rank in the manner described; by first assuming the title of Surgeon-Dentist, then by inserting the conjunction "and" between the words and eventually dropping out the word Dentist. Of this we are fully confident, that if any such case can be adduced, the authorities in Lincoln's Inn Fields are fully competent to deal with it. But to say that such fraudulent proceedings are facilitated by the Dental Act, which throws the same safeguards round the one as already protect the other, is to assert that, which, to put it mildly, is inexact. No one, we are sure, would think of undergoing the training necessary to enable him to present

himself before the examining board for the L.D.S., as the examination is now conducted, with any other object than that of practising the specialty. The training and course of study may be different: just as the training of the sculptor differs from that required for the sister art of painting, but to regard it as easier, is simply a delusion and a snare, as he would soon find to his cost who should be so ill-advised as to act on that presumption. They are two mountain paths trending upwards to the same Alpine Crest; of which one may be a little less steep and rugged than the other, but both demanding the same endurance and climbing power:—the choice of the wayfarer inclining him to select that which leads him nearest to his own restful home

What was felt to be the great want for the profession was, a guarantee, possessing legislative force, of competency in the practice of the specialty, the fruit of an appropriate course of study; with state recognition in the way of compulsory registration; without which two things it might have been in danger of becoming a lost art. This has now been obtained, and will in time secure for the profession what was sought by its provisions, with a fulness and completeness which have never been even approximately contemplated by any other scheme which it has been proposed to substitute for it. We, therefore, bespeak for it in the name of that fair-play, which is so dear to the soul of every Englishman, a candid acquiescence, if we may not at present hope for cordial support.

On the Selection of Remedies for Facial Neuralgia.

By JOHN C. THOROWGOOD, M.D., F.R.C.P.

PHYSICIAN TO THE VICTORIA PARK HOSPITAL FOR DISEASES OF THE CHEST.
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HOSPITAL.

THE object of the present communication is to afford a few hints that may be of service in guiding to the choice of

an appropriate remedy for those cases of Facial Neuralgia which so frequently come under our notice, and so imperiously demand prompt relief from the intense suffering which they entail on the patient.

In instances of severe Tic Douloureux—Neuralgia of the Trigemini, or 5th nerve—it has usually been found that the nerve at some part or other of its course was subjected to irritation or compression by a bony growth or tumour. Romberg has reported in much detail the case of a man who for 26 years was liable to agonizing attacks of neuralgia of the trigemini, and after death there was found a small aneurysmal tumour, on the carotid artery within the skull, which exercised more or less pressure on the nerve.

In the sad case of Dr. Pemberton, the physician who when in the most active practice was seized with such severe attacks of tic in the face that he once stamped his foot through the bottom of his carriage in the agony of the seizure, there was found a bony growth within the cranium which pressed on the 5th nerve. Sir Henry Halford has recorded numerous cases where incurable facial neuralgia was caused by pressure exercised upon the nerve by bony thickenings or tumours.

Hyrthl says that the divisions of the 5th, which pass through narrow bony canals, and are therefore liable to compression, are the ones most prone to neuralgic seizure. Those branches of the nerve which pass through the wide sphenopalatine foramen to the nose are not nearly so often the seat of pain as are the infraorbital and the superior and inferior dental branches. There is probably some truth in this idea of Hyrthl's, but the nasal nerve we know passes through one of the foramina in the inner wall of the orbit, and there certainly might be subjected to pressure. It is worthy however of remark, that it is a nerve which is well protected from cold and adverse external impressions.

If irritation from pressure have so much influence in causing neuralgia of the trigemini, it is easy to comprehend how diseased states of the teeth and periodontal

membrane may set up bad facial neuralgia. To localize the starting-point of the malady to one special tooth is not always easy, for once started the branches of the nerve supplying all the contiguous teeth become involved, and all these may be acutely tender to the touch. In confirmed facial neuralgia the exquisite tenderness of the teeth prevents attention being paid to their due cleansing with a brush, hence tartar collects in great quantity. Naturally, if a person have had neuralgia, and some pain, too, in a carious tooth on the same side of the face, it is reasonable to connect the two together as effect and cause; but that it is not always the painful tooth that originates the neuralgia, is shown by the fact mentioned by Dr. Lauder Brunton in his paper read at the meeting of the Odontological Society on March 1st.*

The local treatment of the carious and painful tooth I will leave to those of greater skill and experience in such matters than I can boast of. Carbonate of bismuth and the sub-acetate of lead, are recommended as excellent sedatives to local pain in a hollow tooth, but I should doubt if either would prove superior to the best German creosote, with the addition of a small quantity of opium or hydrochlorate of morphia.†

The cases of facial neuralgia of obvious dental origin that we have often to prescribe for, pending the visit of the patient to the Dentist, may be due to cold caught in some way or other, one or more of the teeth being acutely tender and painful, feeling as if raised up above their normal level. The pain runs up the side of the face to the eye, and sometimes the gum generally I have noticed to be especially swelled and painful. In these cases there is inflammation about the investing membrane of the tooth, hence the tensive pain and coincident irritation of

* See page 131, No. 3, *Monthly Review of Dental Surgery*.

† This form is highly commended by many. Take of chloroform and creosote (or carbolic acid), and Sydenham's liquid opium of each 2 parts, of tincture of benzoin 8 parts. Mix, and apply to the tooth by means of wool.

the branches of the nerve by pressure on their terminals. Though cold is, in most cases, the direct cause of the painful attack, yet very often there is some unhealthy acidity of the stomach, and we seldom are wrong in giving to the patient such a pill as this at bed-time:—

R.—Hydrargyri Subchloridi, gr. j—ij.

Extracti Belladonnæ, gr. $\frac{1}{3}$ — $\frac{1}{2}$.

followed by an aperient draught of sulphate and carbonate of magnesia. The pill relieves the liver, and the belladonna contained in it unquestionably tends to diminish the congestion and swelling about the teeth.

Ammonium Chloride.—Should the pain persist, despite the administration of aperients and antacids, then the chloride of ammonium is well worth trying in 10 grain doses every two hours. If the gum generally be spoken of as very painful and tumid, the chloride seems to me especially indicated. The best way to take the chloride of ammonium is dissolved in a wine-glass of water, with 20 drops of spirit of sal-volatile added thereto.

Croton, or Butyl Chloral.—A remedy from which I have seen prompt relief is the croton, or Butyl, chloral hydrate. The white, shining, sparingly soluble substance known as Butyl chloral, in moderate doses of 5 grains, has a special sedative action over the 5th nerve. In larger doses of 15 grains, it acts as an hypnotic and causes sleep.

The Butyl chloral is readily soluble in hot water, and it is also dissolved by alcohol and ether. In cases where the neuralgic pain is paroxysmal—worst at night—and often connected with dental caries, 5 or 10 grains of the Butyl chloral may be given, dissolved in warm water, at bed-time. A little brandy, or 20 drops of spirit of ether may be added to the dose. I have employed the remedy in the form of pills, containing 3 grains each, and have seen temporary relief follow the use of these. In bloodless, anæmic persons, the Butyl chloral is often very successful.

Gelseminum Tincture.—Drs. Sawyer and Mackey have highly commended the tincture of the gelseminum semper-

virens for the purpose of relieving pain in the branches of the 5th nerve. It is said to be of use in cases of non-inflammatory pain, and its action is that of a paralyzing agent. Sydney Ringer has seen a distinct paralysis of the 3rd nerve, with ptosis of the eye, produced by 10 minims of the tincture of gelseminum, given three times a day for facial neuralgia. My own experience of the gelseminum tincture is that it is uncertain in action, curing one case of neuralgia speedily and permanently, and having no effect on another, where the symptoms seemed very similar, and where the same tincture was employed. Giddiness, double vision, pain in the eyeballs, and squinting, may be among the poisonous effects of this drug. The usual dose of the tincture of gelseminum is 10 to 20 minims, and from such doses I have never seen any evil effect, though the neuralgia has often remained unrelieved.

Phosphorus is a medicine that may do good when gelseminum has failed. The cases in which phosphorus is indicated are those of old standing neuralgia, upon which the curative powers of quinine, arsenic, and other reputed specifics have been fruitlessly exhausted. In recent facial neuralgia, due to inflammation from cold about the tooth-socket, I have given carefully prepared pilules of phosphorus, with no more effect than if I had ordered bread pills. On the other hand, I have had to prescribe for obstinate neuralgia running over all the very numerous ramifications of the 5th nerve, and wearing the patient quite low and thin, and here have given phosphorus with conspicuous and speedy success. The best way in which to give phosphorus is in the form of a pill, in which from $\frac{1}{100}$ to $\frac{1}{30}$ of the substance is incorporated with melted fat after the form of the *Pilula Phosphori c. Sevo*, at page 224 of the eleventh edition of Squire's Companion to the British Pharmacopœia, or else as a *perle*, or gelatine capsule, in which the phosphorus is held in solution by means of a few drops of cod liver oil.

Quinine and Belladonna are two valuable remedies, more

universally trustworthy than any I am acquainted with, for the cure of facial neuralgia. I have seen the pain due to an inflammation in the socket of a tooth, which came on suddenly and with great severity, subside quickly and permanently after the use three times daily of a pill containing 2 grains of sulphate of quinine and $\frac{1}{2}$ grain of extract of belladonna. On a previous occasion, when the pill was not employed, the pain was so severe that it was only by a hypodermic injection of acetate of morphia that ease was obtained, and then at the cost of some hours of nausea and sickness. The belladonna appears to reduce local congestion, and may follow well on a few doses of chloride of ammonium as a preparatory medicine. Some prefer to give the sulphate of quinine in powder, stirred in a little water, or in some sherry wine, rather than to employ it in the pill form, and this method is one worth trying. I will not now say more on the use of specific remedies for facial neuralgia, but would just in conclusion say, before employing any definite specific, correct acidity of stomach by some 10 or 20 grains of bicarbonate of soda, for all parts of the nervous system sympathize intimately with the digestive organs. Dr. Wollaston once ate some ice cream after dinner, and before long had intense pain of a neuralgic kind in his leg; suddenly he was sick, the offending cream was thrown off his stomach, and the pain in the foot vanished immediately.

Clinical Lecture.

Delivered at the National Dental Hospital, London.

By W. FINLEY THOMPSON, M.D., D.D.S.

I HAVE alluded to erosion in a general way, but shall now consider cases of a special nature, as developed upon labial and buccal surfaces of teeth; endeavouring by clinical demonstration to illustrate a means of suppressing the oral fluids from the parts to be operated upon, where clamps are contra-indicated.

Erosion is a synonym of corrosion, and means an eating

away. The term, as applied to the dental organs, signifies deficiency of tooth material, and should not be confounded with caries. This imperfection may be evident at the eruption of the tooth, and is by some ascribed to adverse influences interrupting the nutrient supply to the teeth in their developmental sacs; while others attribute it to the action of acid secretion within the sac. The ulterior ill influence at this period is more of the nature of mal-nutrition than of disease, and manifests itself by horizontal striations and grooves on the buccal and labial surfaces. In other cases the teeth, especially the molars, are pitted over with small holes, or marked with disintegrated spots; these markings will be found to follow the general rule of horizontal striation, and have a tendency to occur in lines. The deficiency is not confined to the enamel, for the dentine in the vicinity of the eroded parts presents layers of "continuous rows of globules of dentine, with their inter-globular spaces." The spongy condition of such a formation of the dentine is materially less solid than the normally calcified inter-tubular substance. The corrugations caused by erosion occur in teeth of synchronous development and eruption, and simultaneously with the disfigurement on one side, will be found an analogous condition of weakness on the other. This form of erosion is termed congenital, while that which occurs later in life is called accidental. Erosion generally makes its appearance on the vertical walls of the teeth; ostensibly occurring upon the labial and buccal aspects—it being an exception to find it upon proximate surfaces. It is found here, however, as also occasionally upon the lingui-cervical region, presenting inequalities of a parallel elongation, as if an instrument had been drawn across the surface in a direct line with the maxilla, or, as if the enamel had been scraped in lines of unequal depth, the section of the tooth presenting a form homologous to that of the edge of the imaginary instrument so pictured. These deformities frequently exhibit themselves in cavities of peculiar shape and greater development. I may specify one of them by describing it as a groove furrowed in the

tooth at its cervical region. The section of this groove is triangular at its largest dimension, the side nearest the gum being at right angles to the buccal surface, the other gradually sloping in the direction of the occluding surface. The extension of the angular floor of the cavity being but little removed from a right line, it leaves the surface on either side and has its extreme depth at the protuberance of the tooth, to which surface it forms a chord. The anteproximate surface of this seat of erosion presents the form of a partial ellipse—a conic section. Another form, much less decided in outline than the preceding, presents a depression, spoon-like in character, but with edges that blend imperceptibly with the general surface of the enamel and cementum. The formation of these cavities may be ascribed to causes extrinsic, as chemical and traumatic; though it is doubtful if erosion is developed in teeth which are not intrinsically faulty. The chemical agents of destruction must be sought for in the oral fluids; but, doubtless, in cases where the teeth are abnormally disposed to disintegration, the ordinary acidulous components of food imperceptibly combine with the morbid tissues, and may result in the formation of cavities similar to those illustrated in the following figures (Nos. 1 and 2).



Fig. 1.



Fig. 2.

The forms of erosion as shown in the above diagrams, are sometimes produced by traumatic agencies, which of course come under the head of abrasion. Friction from badly adjusted clasps on artificial dentures may simulate erosion; this condition may also be attributed to the excessive use of the brush, or by the impingement of teeth against each other through mal-articulation, which may be original, or

produced from causes incident to life,—as loss of teeth, resulting in change of position to those remaining. As the cavity enlarges, it encroaches on territory hitherto occupied by the peri-dental membrane, thereby causing it to recede. Simultaneously with the retrocession of this membrane, we find the gum receding; the morbid influence causing decay to advance to points beyond the margin of the gum.

Erosion and caries produce similar results, but there is a recognisable difference between the two. Caries may attack teeth of apparently strong structure, and evidences of resistance to disease are manifested by layers of semi-decalcified dentine, which retain with great tenacity their connection with the normal tissues; but in erosion, portions of the teeth seem fated to complete disorganisation, the mal-conditioned parts presenting parietes of highly-polished surfaces, giving an appearance of wear, or cavities designedly made. The pulp, however, sometimes evinces, as in caries, defensive action by the formation of secondary dentine. When erosion occurs at the gingival margin, the dentine is usually found very sensitive, and its impressibility may justify therapeutic measures, so as to possibly favour the calcification of the anastomosing canaliculi, which would otherwise remain patulous and subject to varying and destructive influences. With this exception, little can be done with erosion farther than to instruct the patient in the methods of cleansing the teeth, as the indiscreet use of the brush may remove tissue, necessitating the restoration of such lost structure. When it is necessary to operate upon a cavity so formed, whether by caries, erosion, or abrasion, I have found the most expeditious, effective, and, on the whole, less painful process, to be the use of sharp instruments, with thorough and rapid execution.

The cavity upon which I shall operate this morning,—illustrated by diagrams, as well as a plaster model, with the rubber dam *in situ*, which I now pass to the class—

shows the difficulties to be contended with in cases of this description. I allude to this with no intention of treating decay in detail, farther than to illustrate the application of one of our most valued agents during prosthetic restitution.

Idiosyncrasy, as manifested in some, occasions an additional trouble in the use of the rubber when applied to inferior incisors, by the spasmodic action of the oral orbicular muscle, conjoined with the elevating muscles of the lower lip—the levatores labii inferioris—which sometimes play a most conspicuously tormenting part, by, in a moment, forcing up that portion of the dam reflected over the lip, thereby obstructing from view the scene of operation, and making it exceedingly difficult to continue treatment. This spasmodic action appears in many to be absolutely beyond the power of control, and is due, no doubt, to the susceptible influence of irritating causes.

As a sequence, where these involuntary contractions of the mouth occur, an excess of the salivary fluids may generally be expected. Obedient to the sympathetic action of nerve irritation, copious exudations of a viscid character flow from the glands into the oral cavity, filling it with a muco-gelatinous effusion that barely finds escape through the saliva ejector.

The effective adjunct just mentioned, prevents overflow from the commissures of the lips of the accumulated secretions, with its attendant train of annoyances.

In adapting the rubber, it is important to accurately calculate the distance intervening between the teeth, in order that corrugations formed by excess of the material may not encroach upon any portion of the structure intended to be operated upon. For if the perforations be made too far apart, the rubber intermediate between the teeth will form convolutions and radial eminences, obstructive to the objective point at which attention is engaged. Again, should an insufficient space be left between the apertures, the work will be jeopardized, or at least delayed, by the seeping in of moisture upon the filling; while if the

holes be cut too small, difficulty will be experienced in endeavouring to place it on the teeth without tearing. The other extreme, that of cutting them too large, may be considered quite as dangerous, for, in that case, the rubber will fail to contract upon the teeth to an extent sufficient to exclude all moisture.

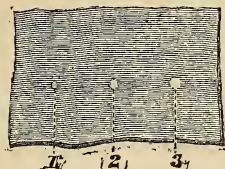


FIG. 3.

The illustration which I now pass to you shows the average three sizes of perforations required when using rubber upon laterals, bicuspid, and molars, of ordinary dimensions; exceptional cases, of course, requiring special adaptation.

For example, when placing the dam on three teeth, the central perforation being applied without tension to the intermediate tooth, the remaining apertures will fall in the vicinity of the proximate surfaces. The first extension carries the holes to the medial points of the crown of each of the three teeth in question, and is made at the expense of the rubber lying in a line with the maxilla, resulting in a proportionate elongation of the holes themselves.

This extension is then supplemented by another perpendicular to the first, which, conjoined with compressing the rubber on the tooth, enlarges the apertures at the expense of the elastic material (1st) on the sides embracing the lingual and buccal aspects, and (2nd) between the teeth. The portion so expanded is limited to a circumscribed area of distension, and is almost wholly expended in the formation of a rim round the tooth, which may be designated a collar. As the compression passes over the tooth the circumferential edge is retarded, and forms a

collar inverted in the opposite direction to that required. This is remedied, however, by carefully working the edges of the rubber upon the cervical portion of the tooth and underneath the gum until it forms a matrix, involute in shape, between the hard and soft tissues. The effect of the extension of the rubber is to cause it to invade the greater portion of the interdental regions; but if the mutual distances of the perforations have been carefully estimated, a neutral line will be left, which, although affected by the general distension in length, has not sufficient tension to draw the dam away from the adjacent teeth, thereby causing apertures for the intrusion of moisture. On the selection of the rubber, much will depend as to the comfort and convenient manner in which the operation may be performed. If too thick, the collar will not be easily reversed in its position and carried to the point desired, besides, it greatly complicates matters by an excess of material which must necessarily encroach upon territory that should be left free. On the other hand, should the rubber be too thin, the power of the distended portion would be so abridged as to diminish the collar in size, and consequently its tenacity in resisting the aggressive fluids; also, the substance of the material between the teeth would be so attenuated, that the slightest miscalculation in leaving a deficiency between the original perforations, would greatly aggravate the case.

(To be concluded.)

London Dental Hospital.

THE annual distribution of prizes to the students was held at the Hospital on July 5th, 1880. Septimus W. Sibley, Esq., F.R.C.S., presided. Among those present were—Dr. Stewart, Prof. Flower, Mr. Edwin Saunders, Col. Sibley.

The DEAN read his report for the past year. He said:—Before commencing my Report, a few words are necessary from me to explain the reasons which have led us to

change the place of our annual distribution from Willis's Rooms to the Hospital. We felt that the interest taken in us by our friends would not be diminished by any alteration in our place of meeting; while the desirability of occasionally holding our yearly commemoration in the centre, and amidst the scene of our daily work, would be admitted by all. At the same time we avoided laying a tax upon the general public by every year, inviting the same persons to an anniversary which, however interesting to us, they might be forgiven for feeling rather monotonous. It will be generally allowed, I think, that however good a thing may be when it is fresh, the same thing, if too often offered us, becomes palling, and our interest in it slackens.

One disadvantage, and it is a very serious one, this year's arrangement entails upon us, namely that of being unable, owing to the very limited space at our command, to ask as a body those who show the most practical interest in us, and who are our best friends, the governors of, and subscribers to the Hospital. But we feel that those who are not here to-day will, as all true friends do, make every allowance for our difficulty, and believe us when we say that we deeply regret we cannot enlarge the Hospital for the occasion.

I was able to report last year that, in spite of the depressing condition of affairs then existing all around us, our progress as a Medical School had been satisfactory, and I expressed a confident hope that as time went on the depression in trade would cease, and things would find their natural level, and that we should, in common with the rest of the world, feel the benefits—the result has fully borne out my expectations. Our number of entries this summer was more than double that of last, and I have every reason to hope that the winter entries will be in the same proportion; if so, this year will be considerably in advance of its two predecessors, and we shall be enabled to deal more promptly, and therefore more efficiently, with our patients.

During the earlier part of this year the powers of the then House Surgeon and Assistant House Surgeon were tried to their utmost in dealing with the immense number of patients who presented themselves; the number of Students to assist these Officers, being, through illness and other causes, very limited at that time. Since the 1st of May the addition to our ranks of new men, has helped us to work off those arrears, which, although unavoidable, caused us great anxiety, and has given us the means of keeping pace with the demands made upon us.

The three yearly Examinations of the College of Surgeons of course lessened our numbers, but the places of those who go out to the world from us fully qualified, are rapidly filled up by new recruits. At the last two Examinations, in January and June, I have the great satisfaction of stating that all our men passed. The exertions of our Demonstrator and Medical Tutor have contributed to this result, and these two offices, originally experimental, have fully carried out our intentions, and have proved very valuable adjuncts in our teaching system.

I deeply regret to announce the resignation of the Lectureship in Metallurgy by Mr. Makins, and that in Dental Mechanics by Mr. Turner. Our old friend, Mr. Makins has taught Metallurgy here ever since the foundation of the school, and quite independently of the great lustre which his distinguished name has shed upon us, he has endeared himself to each and all of the successive generations of young Dental Surgeons who have had the privilege of being taught by, and brought into contact with him. It is a most painful wrench to us to lose him, for he has worked for us purely from interest in us, and during the earlier part of our career without any pecuniary return,—for the School for many years had none to offer. He is the last of the old staff of Lecturers, and we can never replace him. We owe him a very deep debt of gratitude for his untiring zeal in our special education, and for his unvarying kindness to all of us personally. Those of us who were at one time his pupils (and I am proud to

remember that I myself was one), will know the deep respect and affection which we entertain for him, and will appreciate the regret of both the staff and the students that as the years pass by he feels he must be relieved of the anxieties attending this important post.

We also suffer a great loss in our good friend Mr. Turner's resignation—he is one of the back bones of the School, an indefatigable and most able teacher, and one whom we can ill afford to part with. But he too feels unequal to the strain upon him which this post involves, having an immense amount of other work upon his hands, and we must, therefore, make up our minds to submit to the inevitable. The only consolation we have in Mr. Turner's ceasing to be one of our teachers is, that we know he will be working all the harder for us in other ways, and the knowledge that he will be in the front of our ranks, actively advancing our interests, ought to help towards reconciling us to losing his immediate presence among us here. Still, putting the best face possible on the matter, the loss of two such men as Mr. Makins and Mr. Turner is a serious blow to us.

It is right that I should take this opportunity of mentioning the valuable help the Staff has received during the past year from our House and Assistant House Surgeons. These posts are filled by Senior Students, who are selected from the best men of their year to discharge those duties. Mr. Magor, our late House Surgeon, and one of the most distinguished men we ever had among us, needs no mention from me to recall him to you. Mr. Bradshaw, his Assistant, Mr. Robbins, our present House Surgeon, and Messrs. Harris and Curnock, his two successive Assistants, have been, and are carrying on the work of the Hospital very excellently and efficiently.

The valuable Scholarship, founded by Mr. Edwin Saunders and bearing his name, will be presented by him to Mr. J. S. Amorre. Mr. Amorre has gained the *first* prizes for Dental Mechanics and Metallurgy, and the second prize for Dental Anatomy and Physiology; so that

you will see he is proving himself well worthy to wear this blue ribbon and to take his place amongst those who have worn it before him.

Again I have to regret the absence of our kind friend Mr. Buchanan of Glasgow, whose generous gift of a handsome Annual Prize is still continued.

Among the prize men of this year, next to the Saunders Scholar stands Mr. Hern, and it is very much to his credit that, considering he is only a first year's man, he should have won two first-class prizes. If his career continues as it has begun, it is easy to forecast the future, for Mr. Hern has already distinguished himself at Middlesex Hospital. Mr. Alexander Matthews, who is also in this his first year, has obtained the second Surgery and the second Metallurgy prize; I have, therefore, every reason to expect that I shall have the pleasure of mentioning these gentlemen's names in my Report next year.

A new feature is introduced into our programme this year—the Student Society Prize given by the Society will be awarded together with the prizes of the Medical School. I gladly acquiesced in the request of the Secretaries that it should be presented on this occasion.

And now as my Report has been longer than I could have wished, I will bring it to a close, only saying that I think our prize list fairly represents the work that has been done, and if examinations are worth anything (and there are those who would fain persuade us they are not) our programme shows that we are keeping up our old *prestige*, and that our prosecution of the scientific study of this branch of Surgery keeps pace with the real relief from every real pain which it is the work of Dental Surgery to afford.

Finally, on behalf of my colleagues and myself, I must express the great pleasure which it gives us to see so many of our friends here to-day. To the ladies our thanks are doubly due, and we beg to tender them our very hearty welcome.

Mr. EDWIN SAUNDERS, addressing Mr. J. S. Amorre, said:

In presenting you with the Scholarship which bears my name, let me assure you I do so with sincere pleasure, inasmuch as I know that you have honourably fulfilled the conditions of the award. Your repeated appearances at this table, according to the programme which I hold in my hand, sufficiently attest the diligent use you have made of the educational opportunities afforded by the London School of Dental Surgery. We all know the old adage which teaches us that "Well begun is half done," and there is another which describes the first step as the only costly and painful one. You have evidently made that good beginning. You have not grudged the cost of that first step, and it only remains for me to express a hope, in which I am sure all present will concur, that this early success and this good beginning may be the earnest of a successful career.

Mr. C. S. TOMES in introducing the successful competitors in Dental Anatomy and Physiology, said: In introducing Mr. Hart I should like to thank him for relieving me of the sometimes onerous duty of deciding to whom the prize should be awarded, by sending me in a paper, that at the very first reading left no doubt whatever on my mind, that to him, and to no other, the prize should be awarded. To the other gentlemen I cannot record the same measure of thanks, because their papers gave me a great deal of trouble to decide in what order I should place them.

The CHAIRMAN then delivered the following Address:—

It is now both my duty and pleasure, to congratulate those who have received prizes and certificates, on their success, and to express a wish that the position which they have this day attained, may be an earnest of future fortune, and that a career so auspiciously commenced, may be continued with the same success. I may also offer some comfort and condolence to those who have not met with the same good fortune; the want of success on the present occasion should stir them to increased activity in future. I could readily bring forward many illustrations of those who having failed in their first efforts, have achieved the highest position on subsequent occasions.

To all, successful or failing, I may offer congratulations on having made good progress towards the object they have in view, viz., to becoming qualified Dentists, and more or less connected with the great and noble medical profession.

In following Dentistry as a branch of medical art, the study of humanity becomes necessary, and the whole book of nature is opened before you. All the most interesting subjects connected with the structure and functions of the the human body, must of necessity occupy your attention, and you have to study the various laws which regulate the gradual formation and development of our frame, the perfecting and maturity of the various parts, and then the slow but sure decay and destruction which follow. It is true that in one part only you are especially to observe these changes, but that one part is a type of the whole, and even in that limited area, cannot fail to impart an unceasing interest to your daily labour. The ever-changing forms in which nature presents herself in health or disease, supplies a theme for the exercise of all the powers of the mind, and the student of nature finds his education always advancing, never complete.

The profession which you will follow is not only attractive from the scientific interest which awaits all investigation of nature, but the work to be done is of an eminently useful and practical kind. In common with the art of medicine, it is the privilege of the Dentist to relieve materially the sufferings of our race, and although we are at times apt to smile at the horrors of toothache, there must always be much satisfaction to those who can alleviate pain and make men and women more fitted to fulfil the duties they have to discharge.

You may therefore fairly be congratulated on belonging to a profession which has so high an aim, and the practice of which must be so congenial to the taste of a Christian gentleman. Most callings, when honestly and faithfully pursued, are honourable, but markedly so must that be, which in any degree follows the steps of our Master in going about doing good.

The altered position of the Dental profession since our last meeting, is also a matter of rejoicing. It is only in the last few months that the profession may be said to have emerged from the dark ages. The Dentist Act has now come into operation, and the lines of the profession are more or less fixed. A qualification, such as that of the College of Surgeons, has become, not a mere ornamental adjunct to one who wishes to practise Dentistry, but a necessary diploma for registration.

You are all, I think, aware that this Act has been the result of much deliberation, and of many years of steady work. When the organisation of the Dental profession was first taken in hand, three distinct schemes presented themselves. In the first, it was suggested that the Dentists should constitute themselves into a separate organisation, and that they should regulate their own affairs independently of any other body. This scheme, however, failed to acknowledge that Dentistry is a branch of the healing art, and it would have deprived the Dentists of the co-operation and assistance of the medical profession.

The second scheme would have limited the practice of Dentistry to those who were first of all surgeons. This plan would have rendered it difficult or impossible for a sufficient number of qualified men to practise Dentistry. It did not recognise the fact that a practitioner might be a good Dentist without being a surgeon, and it did not provide for the special training necessary for a Dentist. Such a plan would have left a few with medical qualifications, practising Dentistry, whilst the rank and file remained without organisation and qualification.

The third scheme, that on which legislation has been based, starts with the assumption that dentistry is a branch of medical learning, and acknowledges that a certain amount of medical knowledge is necessary for the Dentist, but it does not make it essential that every Dentist should undergo the same training as a surgeon. It, moreover, makes it compulsory that every Dentist should receive special instruction in the technicalities of his art. By cutting off

a certain portion of the medical course, and by putting in place of it the special studies of the Dentist, a curriculum has been framed which is scarcely inferior in extent to that observed by surgeons, yet it includes all that is essential to a Dentist.

For a time, this scheme has been simply permissive, the College of Surgeons have examined and issued certificates to those who having gone through the due course of study, have passed satisfactory examinations. In this way, a number of men have been licensed to practise with the authority of the College of Surgeons. But as I have said, this was permissive, and not compulsory. It was open to anyone to practise Dentistry and to call himself a Dentist, whether possessing knowledge, education, and a qualification or not; this is no longer the case. When the register was once constituted, no one without qualification can be placed upon it. The legislature has been careful, we may even say tender, in dealing with vested interests. Hence, anyone who could claim to have been in practice before the Act came into operation, was placed on the register. This, it should be observed, conferred no qualification on those registered, it simply acknowledged that they were already in practice at the time of legislation, and therefore the new Act did not interfere with them. It need not trouble you that some have been placed on the register on very slender grounds, some it is to be feared by actual misrepresentation. Your names will, however, be distinguished as possessing the title of Licentiate in Dental Surgery. Some young men, I believe, have been tempted to place their names on the register without obtaining a qualification; but the fact that in a very few years this distinction will become more marked, should stimulate them at once to go through the required curriculum, and obtain a qualification, and so remove from themselves a mark of inferiority.

The Act moreover leaves untouched the privilege of the Members and Fellows of the College of Surgeons. As they were entitled to practise all branches of surgery, they may of course follow Dentistry. As, however, the license in

dental surgery has established a position for itself, and beyond this it affords a guarantee that the holder had been educated in the technicalities of Dentistry, it is not probable that any will hereafter practise dentistry, without holding this diploma.

On the other hand, I should perhaps remind you that the Licentiate is the minimum qualification, and I should advise all who have the time and means, not to rest contented with this diploma alone, but to take in addition the Membership or Fellowship of the College of Surgeons.

To those who have been, and to those who still are, connected with this Hospital, the thanks of the Dental profession, and I may add, those of the public, are most justly due, for the skill, energy, perseverance, and disinterestedness, with which they have carried this out. There is still work to be done to consolidate this labour, and in this you will have to join. You will reap the reward of the labours of those who have gone before you, and you will commence your career not as casual practitioners of an undefined calling, which has not unfrequently degenerated into a trade, but as members of an honourable profession with a position recognised by the state.

It is natural that in the settlement of an important question like this there should be some opposition. The Act has, however, received the support both of the Dental and of the medical profession, and the legislature is not likely to undo the work which it has accomplished. It must therefore rest with the Dentists to work out this Act to the best advantage, and to prove by its operation, that the legislation has been wise and just.

Among other objections which have been urged against the act, a fear has been expressed that men would take the qualification of Dental Surgeon, and pass themselves off to the public as properly qualified surgeons. If it were not otherwise provided for in the act, it is very unlikely that anyone would go through the Dental course and curriculum, in place of the surgical, as there is so little difference in their extent.

The same principle of legislation might with advantage be carried in other directions. The Pharmaceutical Chemists should be connected with the medical profession, and should be subject to the supervision of the medical council. Such a control would not interfere with the liberty of action and organization of chemists, whilst it might restrain irregularities.

Our meeting here to-day and this recent legislation upon Dentistry naturally suggests the subject of speciality. There is a great tendency in the present age to encourage speciality, particularly in medicine; to a certain extent this is, perhaps, wise but it has of late been carried to an almost absurd degree, and is calculated to become injurious both to the art of medicine and to the public interest. There has been a tendency to make a speciality of each particular ache of the frame, and of each separate organ of the body. This idea has no doubt been suggested by the analogy of the body to a machine, but it leaves out of account the fact that in the human and animal body each part has, more or less, vital connection with all the other parts, if one member suffers all members suffer with it. No part of the body can therefore be made the subject of an exclusive study, but some knowledge having been obtained of the working of the whole, special attention may be directed to the part. Speciality must, therefore, be engrafted on a sound and extensive knowledge of the whole subject, and within these limits, and cultivated in a truly scientific spirit, the study of speciality may be of much service. The culture of a branch always requires to be controlled by reference to more general principles. It is difficult for a specialist to avoid regarding all objects from one point of view, or as it were through one particular pair of spectacles, and thus taking perverted and limited views of the question before him. The amount of observation and attention which can be devoted to one branch by an individual, far exceeds that which could be devoted to the whole subject. It has, indeed, often happened in the history of medicine that by close and extensive enquiry into one

class of cases a deeper knowledge has been obtained, and this concentrated observation can only take place where one particular group of cases is studied.

Then, again, manual dexterity is acquired by frequent practice, and therefore operations and manipulations are commonly best done by those who are most frequently called upon to perform them.

As a rule, special hospitals are to be condemned, for nearly all specialities are best cultivated in conjunction with the more general subject. There are, however, some few, the position of which is exceptional, and which rightly exist.

Training for this object can only be successfully accomplished during the earlier years of life. The age is quickly passed at which the touch can be taught great sensitiveness or the fingers dexterity. This fact was recently brought strongly forward by Dr. Fawcett, when speaking of the great difficulty which attends the teaching of those who have become blind in adult life compared with that of educating children.

Eminently among these is the institution with which you are connected. It was not possible to establish Dental departments in connection with the general hospitals, to carry out the work which is done here. Had there, perhaps been only one or two large educational establishments, it might have been easy to organise a Dental Department in one or more of the general hospitals, which would have accomplished this object; but as it was, no Medical School was prepared to offer the facilities and freedom of action which was necessary to the formation of this institution. As then constituted the Dental departments of the various hospitals, though doing important work, limited their design to the more destructive forms of operation, to the omission of the conservative and reparative work which is carried on here. At the same time, the general hospitals have offered every facility to students to go through such portions of their studies as can best be carried on at the Medical Schools.

Little apology, therefore, is needed to justify the existence of this special hospital. Almost, but perhaps not quite in the same category, stand the Ophthalmic Institutions. To a great extent the objects of these might be as well performed in a department of a general hospital, but the good work done at these institutions justifies their existence.

For obvious reasons mental affections and lying-in cases require separate establishments. So also consumption is, unhappily, so common and so extensively spread a disease, that it would be impossible to take such cases into a general hospital. They would fill and overflow all the available beds to the exclusion of other cases. It is, therefore, necessary to have separate institutions in which such patients can be properly cared for.

Small-pox and fever cases require isolation, and therefore must be treated in separate institutions. Children's diseases have some claim to separate management, but most of these cases can be cared for in a children's ward of a large hospital.

This short catalogue includes almost all necessary establishments. The multiplication of special institutions is not calculated to confer proportionate benefits upon the poor. The expense of management, as a rule, are out of fair relation to the amount of good done, and the affairs of these smaller institutions are not sufficiently looked into by responsible and independent managers.

Another very great evil resulting from this system of multiplication of special hospitals is that medical education is seriously interfered with. The young medical men sent out into the world from the great hospitals, have there opportunities of studying various special forms of disease, sadly curtailed, and the result must be that the public will be supplied with doctors who have not had sufficient opportunities of studying special but common forms of disease. This may be of little moment to the public living in the great centres of population where specialists are numerous, but it is of importance to any one who may

happen to be in a more remote district, or in distant parts of the world. These evils would be to a great extent remedied by the establishment of more special departments at the general hospitals, affording the opportunities of studying and treating various specialities to the fullest extent, but controlling the conduct of these departments by the general principles which govern the parent institution.

Mr. COLEMAN: The very pleasing duty devolves upon me of proposing that our best thanks be given to Mr. Sibley for so kindly and efficiently performing the duties of Chairman this afternoon, and I think you will admit that in making application to Mr. Sibley to undertake this work, we shewed both our judgment and our cunning,—our judgment in selecting a gentleman who has ever taken a warm and active interest in the Hospital, and whose efficiency for the office has been proved by the admirable address given us on this occasion; our cunning in selecting a gentleman whom we knew, (whilst his predecessors have for some time been accommodated with a much more suitable room in a much more acceptable place), was one who was incapable of refusing any request which had a good object in view. I feel sure that the Students of the Hospital will fully appreciate his excellent and admirable address, and the encouragement given to those who are not prizemen on this occasion, will, I have no doubt, stimulate them to be so on a future occasion. I have great pleasure, Sir, in conveying to you what I am sure is unanimous, viz:—the thanks of this meeting, for the manner in which you have performed your duties.

The CHAIRMAN: I am sure I am much obliged to you, ladies and gentlemen, for the kind view you have taken of what I have said. I think nothing further remains but to thank you for your presence and to dissolve the meeting.

General Medical Council.
DENTAL BUSINESS.

Thursday, July 15th, 1880.

DR. ACLAND, PRESIDENT, IN THE CHAIR.

PROFESSOR TURNER said it would be very desirable that we should have furnished to us year by year in a tabular form the return from professional bodies engaged in conferring licenses in Dental Surgery, and so I have put this motion on the programme :

“That the Bodies conferring licenses in Dental Surgery be requested to furnish in the month of January each year, according to the following form, a statement of the nature of the Examinations—whether written, *vivâ voce*, or practical (one or all of the three)—and of the number of Candidates for their licenses, showing the respective numbers passed and rejected :—”

FORM FOR THE TABLE OF RETURNS OF PROFESSIONAL
DENTAL EXAMINATIONS AND THEIR RESULTS.

LICENSING BODIES	DIPLOMAS	NATURE OF EXAMINATION	WITH CURRICULUM		WITHOUT CURRICULUM		TOTAL
			No. REJECTED	No. PASSED	No. REJECTED	No. PASSED	

It is advisable, especially in connection with the granting of these new licenses, that the Council should be furnished year by year with an exact statement as to what the nature of the Examination is, and this is indeed in accordance with a minute of our own body passed on the 26th of March, 1879, which states that a report was read by the Dental Curriculum Committee, signed by Mr. Macnamara as Chairman of that Committee, in which it is stated “That the Examination should, as far as possible, be of a practical character, and should include actual operations and the preparation of specimens in Mechanical Dentistry.” It is very advisable in the return furnished they should state the nature of the Examination, so that we could see whether they are carrying out this recommendation of the Medical Council, “That the Examinations should, as far as possible, be of a practical character.”

Dr. STORER seconded the motion, and the resolution was agreed to.

The memorials from the Association of Surgeons practising Dental Surgery, and the British Dental Association,* which were referred to the

*See pages 183 and 186 of present vol.

General Council by the Executive Committee, were next considered, and on the motion of Dr. Quain, which was seconded by Prof. Humphrey, they were entered on the minutes.

The following letter from the Hon. Secretary of the British Dental Association was read:—

“40, Leicester Square, June 30, 1880.

“DEAR SIR,—In conformity with the *Resolution* of the Executive Committee of the General Medical Council, conveyed in your letter of the 19th instant, I beg to forward, to be submitted to the General Medical Council, a corrected list of persons who, in the opinion of counsel, referred to in my previous letter, are liable to have their names erased from the *Dentists Register*, on the ground that, not being registered in the *Chemists and Druggists' Register*, they have illegally declared themselves to be engaged in the *bonâ fide* practice of dentistry with pharmacy. I am directed to refer the General Council to Section I of the *Pharmacy Act*, 1868 (appended hereto) wherein it is made illegal for a person to practise pharmacy, or take the name of pharmacist, unless he is registered in the *Chemists and Druggists' Register*; and to Section XIII of the same Act (also appended), in which it is enacted that the absence of a name from the last published *Chemists and Druggists' Register* shall be legal evidence in all Courts, meetings of Justices of the Peace, and others, that (unless otherwise shown) such person is not registered according to the provision of the *Pharmacy Act*. I am instructed to point out that the name of each of the persons in the accompanying list was absent from the *Chemists and Druggists' Register* at the passing of the *Dentists Act* (i.e. on July 22, 1878), and that in so doing the conditions required in the Executive Committee's *Resolution* of June 16, 1880—in order that “each such name be submitted to the General Council”—are fulfilled.

“I would further request that you will also bring under the notice of the General Council the cases of A, B, C, who are registered in the *Dentists' Register*, but who, having been also engaged in a business not recognized in the *Dentists Act*, are, in the opinion of counsel (already cited), liable to have their names erased from the *Dentists' Register*. The business cards of the said A, B, C, are enclosed.

“I remain, your obedient servant,

“JAMES SMITH TURNER,

“Hon. Sec. B.D.A.

“To W. J. C. MILLER, Esq.,

“REGISTRAR of the

GENERAL MEDICAL COUNCIL.”

Dr. PITMAN: With reference to this letter, I shall have to move two resolutions. The document itself came before the Executive Committee, and they have had the advantage of the opinion of their legal adviser as to the proper course for the Council to take under these circumstances. Those who are familiar with the *Dentists Act*, as I think no doubt every

member of the Council is, will see that by Clause XIII., "The General Council shall cause to be erased from the Dentists' Register any entry which has been incorrectly or fraudulently made." In the letter you will see it is stated, certain persons are either incorrectly or fraudulently on the Register, and the question is, what step is to be taken in consequence? The Dental Committee of five have to report "As to the facts for the purpose of the exercise of the said powers by the General Council." It is quite clear the Council itself could not go into the inquiry of all the circumstances connected with every one of these cases which are supposed to be incorrectly or fraudulently entered on the Register, and therefore I will move that—

"With reference to the foregoing letter, and others on the same subject, received from the British Dental Association, it is recommended that these communications be referred to the Dental Committee to ascertain the facts as to the several cases referred to in such letters."

Dr. STORRAR seconded the resolution, and it was put to the Council and agreed to.

Dr. PITMAN: There is a second resolution referring to the same subject:—

"Certain persons having requested that the words 'with Pharmacy' be omitted after their names from the Dentists' Register, it is recommended that the Council refer all such cases to the Dental Committee to ascertain the facts in each of such cases."

The Act gives power to remove the name of any person or any entry; so that we take it separately. This has reference to an entry. I move that resolution.

Dr. STORRAR seconded the resolution, which was agreed to.

Dr. QUAIN: I will move this resolution:—

"That the opinions on the subject of Dental Registration specified in the Minutes of the Executive Committee for Nov. 28, 1879 (*Minutes*, Vol. XVI., p. 434, Clause 3), be referred with all preceding documents, to the Dental Committee."

I will read, if you please, the minute of the Committee. A letter was read from Mr. Tomes, enclosing copy of counsel's opinion as to the interpretation of certain clauses of the Dentists Act, and the following resolution was passed by the Executive Committee:—

"It was resolved that the Registrar inform the Representative Board of the British Dental Association that the Executive Committee will submit the several opinions on the subject of Dental Registration to the General Council, with a view of their being referred by the Council to the Dental Committee under Section 14 of the Dentists Act, when this Committee is called upon to exercise its duties, and that they do not in the meantime consider it necessary that counsel's opinion should be entered in their minutes."

These opinions of counsel are very contrary to each other in several respects, but whether that is so or not, these opinions are for the guidance of the Committee to which these cases are referred. No doubt, if the Council are good enough to refer to the opinions of that Committee, they will be used conscientiously by that Committee in bringing up their report thereafter. It is not usual to publish the opinions of counsel in the minutes, it would be very objectionable, and would lead to discussions of various kinds—it would embarrass proceedings, and lead to a want of liberty of decision thereafter. I therefore submit that these opinions should be referred to the Dental Committee, as I believe it would be very undesirable to publish them, and I am strengthened in that position by the opinion of Mr. Ouvry.

Dr. PITMAN: I will second that.

Dr. STORRAR: I cordially support this motion, but I cannot for the life of me see what objection there is to the insertion in the minutes of these opinions. On former occasions in the most unqualified way every opinion of counsel has been inserted on the minutes, and really unless this Council is absolutely to abnegate its functions, I cannot see why these two opinions should be retained apparently as secret documents for the instruction of this Committee. They are documents addressed to this Council, and they ought to be patent to every Member of the Council. My own opinion is that these opinions are of very great value, and that they ought to be presented to us for the instruction of every Member of this Council, and not to be passed on as it were to a Committee without our knowing what they are.

Mr. SIMON: They have not been submitted to the Council. Speaking for myself as one Member of the Council, I am quite as responsible as any Member of the Dental Committee for what is to be done in this matter, and if legal opinions are taken, I should certainly wish to know what is in those legal opinions. I do not think we are entitled to refer to a Committee what has not been before us. We must be very careful not to make any mistake as to what is the province in this matter of the Dental Committee. The Dental Committee has to enquire into the facts of the case, but a direction has to be taken as to the plan which is to be adopted. To give a correct opinion on this, we should be in possession of whatever documents there are on the subject. If it would be inconvenient that these legal opinions should be published, then all I can say is it is for us to hold private sittings, supposing that to be the case; but I should consider it probable that long before now those opinions have been, so to speak, posted on the walls, and everybody knows them. It is extremely probable if there are matters of controversy between these two sometimes rather excited Dental Associations, that they have been spoken of very loudly in public. At all events, as far as my opinion goes, I do not think we can possibly send on to a Committee opinions that have not been before ourselves.

Prof. TURNER: This matter is new to me, and I daresay to most

Members of Council, in fact I think this is the first time such a question has come up before us as the question of erasure of names, and it is, I think, very important. Practically, this question has now come up for the consideration of the Council in anything like a tangible form for the first time, so that we have to look at the matter and try to understand what it is we have to do.

The PRESIDENT: Mr. Ouvry is present. He has advised the Executive Committee in all the steps which have been taken, and whenever the Council think fit, Mr. Ouvry will be prepared to state exactly the condition in which we stand.

In reply to Professor Turner, Mr. OUVRY, (the legal adviser of the Council) said: Clauses 13 and 14 give directions as to the mode of erasing the names from the Register, altering anything on the Register, or restoring a name to the Register after it has been struck off. The 15th Clause directs the mode in which that operation shall be carried out; and in the opinion of Mr. Bowen, the Dentists' Committee cannot initiate any movement, the General Council must initiate a movement by referring any case in which it is proposed to strike off a name on the Register, to alter a qualification or to restore a name to the Register, to the Dental Committee to ascertain the facts. Having ascertained the facts, the Dental Committee will report those facts to the Council, and those facts are the basis upon which the Council must ground its judgment. They cannot go into the facts, they must merely take the facts as found by the Committee. That is the simple statement of the case. Therefore, all you have to do is refer these questions which have been raised to the Dental Committee.

Dr. QUAIN: That has been done.

Mr. OUVRY: That has been done. Then as regards printing the opinions of counsel, the practice of the Council has not been uniform in that respect; sometimes the opinions have been printed, sometimes they have not, it is a question entirely in the discretion of the Council; but as a general rule, we consider that opinions of counsel are taken for the guidance of the Council and not to be published. Of course, they are open to the Council always, they can be read to the Council with an understanding that a note shall not be taken of the reading, and, of course, opinions are open to any individual member of Council who may wish to see them. The opinions of counsel are not infallible, and to put forth an opinion may embarrass the Council. It gives the opportunity to the public to pick holes in the opinion, to say that counsel are mistaken, and to raise an argument which, if the opinions are not published, cannot be raised. If the opinion is taken you may act upon it, and the Courts may decide whether you have acted rightly or wrongly, but the safer rule is, I think, not to print the opinions.

After some remarks from Dr. Pitman, Mr. Macnamara, and Professor Humphrey, Professor TURNER said: There is another question I want

a little light on, and that is whether there is any period of limitation as regards the time when you can remove a name from the Register?

Mr. OUVRY: There is no limitation of time.

Dr. STORRAR: I should like to ask whether it is competent for this Committee to entertain a question of removing a class, or of removing individuals, that is to say, must the cases be referred by name specially one by one to the Council, or is the Committee competent to take up a whole class? My impression is that every case should be taken one by one and referred to this Committee. I cannot help remarking it is to me utterly inexplicable how there should be any hesitation at putting these opinions on the minutes. We are told the business of the Committee is to determine the facts, they are not to determine the law of the case. Let us therefore have these opinions; even supposing they are incorrect, the more need for their being put straight. If this Committee proceed upon an incorrect opinion, then we may get into inextricable confusion. I have no doubt that the opinions are sound. I hear the highest possible praise of Mr. Bowen and also of Mr. Fitzgerald, but for that very reason the opinions should be patent to this Council.

Dr. PYLE and Mr. SIMON having made some observations,

Dr. QUAIN said there has been a list of 360 names referred to that Committee to-day by Dr. Pitman's resolution, that Committee has to take up every one of those cases, and it has to be guided in taking them up by those opinions. I assure you it is one of the most painful and distressing duties that ever devolved upon a member of this Council to have to go into that list of 360 individuals.

Dr. ANDREW WOOD: I see no objection to the opinions of counsel being read; I think it will save time, and would call your attention to one fact. There is a section of clause 15 which clearly implies that the Committee are to be guided in their action by the advice of counsel, but as to objections to reading those opinions, I do not see them.

Dr. QUAIN: I would ask what opinions you would like read, because in Mr. Tomes's letter he says, "I enclose you counsel's opinion." This Council is quite competent to take its own lawyer's opinions, and cannot be guided by opinions that are sent to it.

Dr. STORRAR: Let us have the opinion of Mr. Bowen; I see no objection to the opinion of Mr. Fitzgerald being read too, because it is submitted to us by a responsible organised body of Dentists upon the register for our opinion.

THE PRESIDENT: Perhaps on behalf of the Executive Committee, the Council will allow me to say a few words on this matter. The opinions, which are in the office, are accessible of course to every member of the Council. Had the Committee put them on the programme, and presented them to the Council they would have immediately become the property of the public, and Mr. Ouvry advised that until the case was completed these documents should not be published. That is the whole matter. As far as the Committee are concerned, of course, they have not the slightest

objection to the publication, but what is asked would be a publication against the advice of our legal adviser. If it is the wish of the Council that they be now read, the Committee have no objection.

Mr. TURNER: To put the matter in a formal way, I rise to move that the opinions of counsel on this matter be read in private.

Dr. HAUGHTON: I oppose that. I have no such superstitious grounds of objection to publicity as some members of this Council seem to have. The fact that has been brought out in this discussion, that the opinions are discrepant, is really a reason why we should have them all read, and I see no objection to their going before the public. I oppose the motion that they be read in private.

By a majority of 11 to 3 it was agreed that the counsel's opinions be read in private, and strangers were directed to withdraw.

The remainder of the day's business was transacted in private.

Friday, July 16th.

Dr. WOOD brought up the report of the Dental Committee on the case of Mr. John Hamilton:—

“The Dental Committee have considered the case of John Hamilton, a registered dentist, referred to them by the General Medical Council to ascertain the facts, and have taken evidence. They find that John Hamilton was registered on the 31st of December, 1878, as in practice, with pharmacy, before July 22nd, 1878; that on April 17th, 1879, John Hamilton was registered as a Licentiate in Dental Surgery of the Royal College of Surgeons in Ireland, by virtue of a diploma bearing date the 4th of February, 1879. The Committee find that in pursuance of the power given to the Royal College of Surgeons in Ireland by its supplemental Charter, the President and Council, in October, 1879, ordered the name of John Hamilton to be removed from the list of Dental Licentiates of the College. The Committee further find that in consequence of the said order, the said John Hamilton has ceased to be a Licentiate of the Royal College of Surgeons in Ireland. The Dental Committee report these facts to the Council.”

Dr. ANDREW WOOD: I now move that the report be received and entered on the minutes.

Dr. PITMAN seconded the motion.

The PRESIDENT proposed from the Chair: “It appearing on the report of the Dental Committee that Mr. John Hamilton has ceased to be a Licentiate in Dentistry of the Royal College of Surgeons of Ireland, his qualification as having been such Licentiate be erased from the Dentists' Register, and that the Registrar be ordered to erase such qualification from the Register accordingly.”

This was agreed to without discussion.

Dr. HAUGHTON: Would it not follow as a matter of course that the name should also be erased?

Dr. A. WOOD: That is another part of the case. I think the facts which are stated ought to be inquired into; and I would move that the case be referred for inquiry as to the facts to the Dental Committee. In that way we shall be proceeding legally and properly,

Dr. STORRAR: I do not object to the course proposed. I think it is a proper course. There being a motion before the chair, I wish to throw out a suggestion. We have agreed to refer a number of cases to the Dental Committee who will inquire and in due time report. I expect it will turn out that a large number of persons richly deserve to be taken off the Register. Now could we not in some way provide that these names should not re-appear in the Register of 1881? That would involve a meeting for special Dental business before the close of the present year. I have no doubt that such a meeting would be attended with a certain amount of inconvenience, such as travelling in cold weather, and perhaps at a time when classes are going on. Still there will be this advantage, that you will get these names off before the Register is published, and you would have only purely medical business at the future meeting, which would not occupy so many days as the present meeting has done. We have abundance of funds out of the Dentists' fees to meet the expenses of a meeting of one day, or possibly two days, devoted to this business. But what I specially desire is that the names of a certain number of thoroughly disreputable men, who ought never to have been on the Register, should not reappear, if we can avoid it, in the Register of 1881.

Dr. WOOD's proposal was put and unanimously agreed to.

This concluded the Dental business before the Council.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

THE ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—If anything be needed to demonstrate the uselessness of the above Association in, at least, one direction in which the promoters avowed themselves anxious to bring about improvement and reform, it may be found in the recent correspondence in the *Times*, on "Insensibility to Anæsthetics." It has become very fully recognised that it is a breach of etiquette to address letters to the daily papers on professional subjects only fitted to be discussed

in the journals of the profession ; and it is, happily, very rare indeed to find any member of the Medical or Dental profession committing a breach of this salutary law, which is based upon reasons obvious to every man of gentlemanly feeling. It is, no doubt, occasionally permissible to contribute letters to the daily papers, in order to inform the public on some matters which cannot be otherwise cleared up ; but in the present instance no such justification existed ; and it is curious that the only three Dentists who so eagerly rushed into print, were members of the Association, and those, too, who had been foremost in the work of organising it, and who ought above everybody to be deeply imbued with the true principles of an "improved code of ethics." It is to be hoped that the example recently set by one of the most valued members of this unfortunate Association, may be speedily followed by others, and that it will be recognised by all that the best way to promote the true welfare and progress of our speciality is to work loyally with the British Dental Association and the Odontological Society, which, however much they may be capable of amendment, do unquestionably possess within themselves both force and energy enough to accomplish without the assistance of another Society, all that can be done to promote the advance of our profession.

I am, Sir,

Your obedient servant,

M.R.C.S. & M.O.S.

I enclose my card.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—The enclosed advertisement, which is now appearing daily in the *Morning Post*, seems worthy of introduction to the Dental profession through the medium of your columns. No doubt it is possible to justify the publication of popular sixpenny pamphlets on the "Preservation of the Teeth," on the grounds that they are urgently wanted for the enlightenment of the public. There exist, however, certain cogent reasons against professional men thus addressing the public, and these are recognised by such inferior bodies as the Odontological Society. It is not surprising to find, however, that these reasons do not carry weight with the author of this pamphlet, a member of the superior and

exclusive Association of Surgeons Practising Dentistry, which was founded, as we all know, especially among other things to create and promulgate an "improved code of ethics." May we not crave that the Association will condescend to publish its new code, so that inferior practitioners may strive to form their conduct after its high ideal.

Yours faithfully,

M. O. S.

"Just published, price 6d., by post, 7d., Practical Hints on the Preservation of the Teeth, by —, Member of the Royal College of Surgeons, and Licentiate in Dental Surgery. London: J. and A. Churchill, New Burlington Street."

[We have thought it kinder to omit the Author's name, believing that he will at once recognise the desirability of discontinuing the advertisement, to which exception can be taken.—ED. *M.R.D.S.*]

THE LECTURES ON METALLURGY.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—I was glad to see the question of lectures on metallurgy at the Dental Hospital of London brought forward by "A Member of the Medical Committee," in your last issue, and also by Mr. Fletcher in the *British Journal of Dental Science*.

A little personal experience sometimes throws light on a matter of this kind. When I was a student at the dingy old quarters in Soho Square, it was the custom to attend the lectures on metallurgy during the first winter session. I was—and probably some, at least, of my fellow-students were in like case—totally unacquainted with the science of chemistry. The lectures were held in the evening, and in a room greatly overcharged with carbonic acid, so in spite of Mr. Makin's skill as a lecturer, and brilliant manipulation, I am ashamed to say I was occasionally overcome by sleep, and did not derive much profit from the lectures.

As far as my memory serves me, strict and earnest attention to the lectures was paid only by the three or four students who had set their hearts on the medal, and, moreover, thought they had a chance of winning it. This lamentable state of things may, I think, be easily accounted for. To make an ordinary student work at a subject, one of two conditions is absolutely necessary, viz., a prospect of examination, or a clear perception that the knowledge gained will be of direct practical value. Neither of these stimuli were forthcoming in the case in question!

It remains to be considered, have these lectures any *raison d'être*? I, for my part, should be very sorry if they be discontinued, and no substitute provided. Most men who have been a short time in practice, will agree with what has been so forcibly put by Mr. Fletcher in your contemporary, that a Dentist does greatly need an *accurate and practical*

knowledge of chemistry and metallurgy *as applied to Dentistry*. Whether this subject could be best taught in connection with mechanical Dentistry, or not, the Medical Committee will, no doubt, be the best judges. But I think three conditions are essential for success:—1st, That the lectures be given, as Mr. Fletcher suggests, by a Dentist who knows the needs of Dentists, and that they should be of a thoroughly practical nature; 2nd, That students attend them *after* their courses of practical and theoretical chemistry at the General Hospital; 3rd, That the subject be included in the L.D.S. examination of the College of Surgeons.—I am, yours faithfully,

Darlington, July 12th, 1880. JOHN A. FOTHERGILL, M.R.C.S., L.D.S.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—As a student of the Dental Hospital, may I venture to offer a few remarks on the letter of your correspondent *re* the Lectureship in Metallurgy.

And firstly, let me cordially endorse all that has been written of Mr. Makins; it will indeed be difficult to fill his place, his original work in and great experience of the metallurgy of the precious metals have made him eminently valuable as a lecturer on Dental Metallurgy.

Your correspondent urges that as attendance at general and special lectures have been lately more strictly insisted on, and practical work greatly extended, the Dental student should be relieved, if possible, of some of his burden, and it is suggested that metallurgy should go to the wall in this intention.

Now, Sir, I think the relief afforded would be practically *nil*. Attendance on Metallurgical Lectures is only required for one hour twice a week for six weeks, at a time when most of the students are passing through the "probationary period" at the Dental Hospital, and have, therefore, little to do. No reading is *required* in Metallurgy, since the Examining Board ask no questions in this subject.

Your correspondent suggests further, that Metallurgy should be combined with chemistry or mechanical Dentistry, and quotes the unanimous opinion of many old students, that it is possible to learn the metallurgy which is of practical value in the chemical or mechanical course.

I have only a knowledge of one Medical School, Middlesex, and I can assure you, that if Metallurgy is to be acquired there in the chemical lectures, it will practically never be learnt at all. I believe that with other Medical Schools it is the same. And if so, it is only what might be expected. There is as wide difference between chemistry and Metallurgy, as between surgery and medicine, and certainly one can never hope that at a general Medical School, Metallurgy will be taught.

With reference to uniting mechanical Dentistry and Metallurgy, I would say this :

The education of a Metallurgist is as extensive as that of a Dental Surgeon, and I think it would be difficult, if possible, to find the Dental Surgeon with that sufficiency of knowledge to qualify him to speak as "one having authority" on Dental Metallurgy.

Mr. Makings would tell us that it is difficult to do justice to Dental Metallurgy even in twelve lectures; so that the "mechanics'" lectures would have to be doubled to start with; and where is the advantage?

Your correspondent thinks compulsory attendance on Metallurgy of "questionable value." I venture to believe that if past and present students were canvassed as to the value of other courses of lectures (chemistry, materia medica, medicine) the answers would by no means be unanimous. As long as the Examining Board at Lincoln's Inn only insist on attendance at lectures on certain subjects, and not on examinations in those subjects, so long will their utility be questioned. If any memorialization be made, it should be in this direction: "students may expect to be examined on all subjects put down in the curriculum." This is the regulation, I believe, with the Faculty of Physicians and Surgeons of Glasgow.

The London College have wisely laid down a broad, general, and special curriculum, and though many of us may not be able to appreciate directly the value of much that is required, yet I believe that "*much*" is an important factor in the general sum of knowledge which we bring to bear on our daily work. And I feel sure that a large number of past and present students of the hospital, would view with exceeding regret a tendency of the Medical Committee to so retrograde a course as the abolition or amalgamation of the Metallurgical Lectureship.

Yours faithfully,

REES PRICE

THE "LANCET" AND THE PROFESSION.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIR,—The following passage occurs in a leading article in to-day's *Lancet*:—

"Nothing is more certain than that the Dentists Act has given great dissatisfaction to the Profession, and to most of those Members of the Dental Specialty who have had a professional education and who hold full professional qualifications. The admission to the Dental Register of thousands of persons destitute of all previous professional status must have surprised them as much as it has grieved those who by very different ways have attained to Medical Registration. The grievance of the latter is not less because the Medical Council and the Medical Corporations gave their sanction to the Dentists Act, and are placed at a great disadvantage now in asking either for its repeal or its material amendment."

It is curious to see the persistence with which the Editor of the *Lancet*, or one of his ill-informed subordinates, continues to reiterate in one form or another, the incorrect statement that the majority of Dentists holding *full* professional qualifications are in agreement with his views on dental affairs. At the same time, I think I speak for many Members of the Association in expressing the wish that the Representative Board might see its way without delay to obtain the removal from the Register of those names which have been improperly placed there and so do away with the only valid grievance to which the Dentists Act can be truly said to have given rise.

Your obedient servant,

M.R.C.S.

London, *July 3rd*, 1880.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

GENTLEMEN,—In your last number you announce (without qualification) that a death has occurred from the administration of Ethidene Dichloride, and that Mr. Clover "has made the whole facts of the case public in a lecture delivered at University College, and which is published in the *British Medical Journal* of the 22nd ult."

Now the fact of the matter is, that the only *known* cause of death was the advanced state of fatty degeneration of the heart, found at the post-mortem examination. I witnessed the autopsy, and entirely agree with Dr. Crosby and Mr. Lloyd in the opinion that the state of the heart sufficiently explained the sudden death.

The Ethidene may, or may not, have materially contributed to the fatal result. Reasons for thinking that it did *not* do so, and that the result would have been the same if any other anæsthetic had been used, or even if no anæsthetic had been administered, will be found in my lecture published in the *British Medical Journal* for 29th May, not for the 22nd, as stated by you.—I am, your obedient servant,

3, Cavendish Place, Cavendish Square, W.

J. T. CLOVER.

July 13, 1880.

SIR JOHN LUBBOCK ON THE DENTAL BILL.

(From the "*Medical Press and Circular*.")

TO THE EDITOR OF THE "MEDICAL PRESS AND CIRCULAR."

SIR,—I observe that in the address of thanks of the newly-elected Member for London University, he speaks of the Dental Act in the following terms:

"The Bill has recently been subject to some adverse criticism, arising, I think, from misapprehension. It has been said that the Bill gave persons who had not a proper qualification the right to call themselves Surgeon-Dentists. This is quite a mistake. The Bill did nothing of the

sort. It is also said that under the Bill persons were able to place themselves on the *Register* without sufficient qualification. This, however, is confined to those who, before the passing of the Bill, were actively engaged in Dentistry. The clause was drawn on the lines of the Medical Act (1858), and Parliament would never consent to deprive persons actually practising of their right to do so. The Bill was brought to me by Mr. Tomes, President of the Dental Reform Association; was supported almost unanimously by the Dental profession, and had been submitted to and approved by the three great surgical colleges. Under these circumstances, I think you will agree with me, that having the sanction of the recognised medical authorities, I was fully justified in considering that I acted in accordance with the wishes of the medical profession. I know that there are still some few who object to the Bill, but even doctors, will, we know, differ. I believe their objections are founded on misapprehension, and hope that eventually they will themselves admit that it has worked well."

I can fully believe that the honourable baronet believed that he was gratifying the surgical profession, and doing something meritorious when he passed the Act; and I think that the discredit attaching to that deplorable legislative mistake must rest with the Dental Reform Association who misled him, and with the General Medical Council and the Colleges which put their *imprimatur* on the Bill without reading it or consulting the Dental surgeons upon its provisions. Nevertheless, as one of those who protested against the measure from first to last, I feel bound to point out that Sir John Lubbock's assertions, which I have above quoted, are wholly erroneous; and that the faults of the Act, cannot be excused on the ground which he puts forward in its defence. To show this, I beg you to print the following letter, addressed by me to the *Standard* some weeks ago, in reply to a letter by Mr. Tomes, but, I believe, suppressed by that journal:—

To the Editor of the Standard.

SIR,—Permit me very briefly to state a few facts in reply to the letter of Mr. Tomes, published in your journal, in which that gentleman submits that Sir J. Lubbock is "entitled to the gratitude and support" of the medical graduates of the London University for passing the Dentists' Act. The facts I desire to state are as follows:—

a. That by that Act every person of any grade whatever, educated or not, was given liberty to enrol himself as an officially and legally recognised Dental practitioner on the declaration, by himself, respecting himself, that he is "*bonâ fide* in the practice of Dentistry."

b. That under the permission thus given, 4,806 persons obtained admission to the profession of Dentistry, of whom only 531 possessed any recognised medical, surgical, or dental qualification whatever; 2,707 were *soi-disant* Dentists who presented no evidence of competency but

their own opinion of themselves ; and 2,049 were chemists and chemists' assistants who, presumably, had no real knowledge of Dentistry at all.

c. That by section 3 of the Act, any of these chemists' assistants, or self-dubbed Dentists, may use "any name, title, addition, or description implying that he is registered under this Act, or that he is specially qualified to practise Dentistry."

It is held that this phrase includes the title of Surgeon-Dentist, and thus Sir John Lubbock has given the right to use this name to nearly 5,000 persons who do not pretend to have had any surgical education whatever.

d. That the admission of these unqualified thousands was effected by Sir John Lubbock intentionally and avowedly to disarm the opposition of the chemists and druggists, and done in spite of the most energetic protests on the part of the surgical profession.

Finally, I take leave to deny, unequivocally and emphatically, that there ever was a precedent for this buying off of opposition by the wholesale annexion of uneducated vested interests.

The Medical Act admitted no one save the holder of a recognised diploma, or a person who had been over forty years in actual medical practice. The Pharmacy Acts of England and Ireland admitted no one but an examined pharmacist, and I am not aware of any legislation medical, legal, or ecclesiastical, which ever proposed to confer an official guarantee of competency upon a multitude of persons, the great majority of whom would, I imagine, not pretend to any qualifying education whatever.

This Sir John Lubbock has done, and it may be doubted whether thereby he has acquired a claim to "the gratitude and support" of the medical graduates.

Surgeons find themselves now officially and legally bracketed as practitioners with over 4,000 persons who don't possess, and never did possess any recognised guarantee of their competency; and a majority of whom are, admittedly, altogether ignorant of surgery in any form. So be it.

We must bear our wrongs, having no remedy for them, but it is really too much to ask us to "kiss the rod," and return humble thanks to Mr. Tomes, Sir John Lubbock, and the Dental Reform Association, who made *dento-surgical* practitioners of this motley multitude.

I am, Sir, yours, &c.,

23, Ely Place, Dublin,
June 12, 1880.

ARCHIBALD A. JACOB,
M.D. Dub., F.R.C.S.I.

(From the "*Medical Press and Circular*.")

TO THE EDITOR OF THE "*MEDICAL PRESS AND CIRCULAR*."

SIR,—In reply to Dr. Jacob's letter, while thanking him for his

courtesy towards myself personally, I can assure him that his condemnation of the Dental Reform Association is founded upon a misapprehension of the state of the law before the passing of the Dental Bill.

Dr. Jacob complains that "by our Bill 5,000 persons can call themselves Surgeon-dentists who have had no surgical education whatever." This is, however, quite a mistake. Before our Bill the law courts had decided that any person whatever could call himself a Surgeon-dentist. Our Act, however, provides that (clause 3), "A person shall not be entitled to take or use the name or title of 'Dentist' (either alone or in combination with any other word or words), or of 'Dental Practitioner,' or any name, title, addition, or description, implying that he is registered under this Act, or that he is a person specially qualified to practise dentistry, unless he is registered under this Act."

Under clause 6 those only can be registered who are (a) Licentiates in Dental Surgery or Dentistry of any of the medical authorities; or (b) are entitled as hereinafter mentioned to be registered as a foreign or colonial Dentist; or (c) are at the passing of this Act *bona fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy.

Our Bill, therefore, so far from giving the power of which Dr. Jacob complains, has already greatly limited it, and will eventually have the very effect he desires.

I am, Sir,

Your obedient servant,

House of Commons, June 16th.

JOHN LUBBOCK.

Dr. Jacob having been afforded the opportunity of perusing the foregoing letter, has sent us the following reply, which may with advantage be published side by side with the communication of Sir John Lubbock.

TO THE EDITOR OF THE "MEDICAL PRESS AND CIRCULAR."

SIR,—I would observe, in reply to the observation of Sir John Lubbock that the state of affairs before the passing of his Act—when a few persons might, in peril of prosecution, and under the ban of illicit practice, call themselves Surgeon-dentists—was very different from that which his Act established; when a multitude of uneducated persons are legally authorised and officially recorded as Dental Practitioners. Before the Act a druggist might—if he chose to run the risk of a police court summons—call himself "Surgeon-dentist," or give himself any other conceivable title he pleased, but the general public did not believe him, and the best part of them avoided him as a quack pretender. Since the Act the same druggist—without any additional education or qualification whatever—may buy a copy of the "Dental Register," underline his name therein with red ink, and at once become a fully qualified and gazetted Dental Surgeon. It is true that Clause 3 of the Act forbids the use of recognised titles by anyone "unless he is registered under this Act," but

inasmuch as nearly 5,000 unqualified persons have been already "registered" under this Act, and are entirely exempt from this prohibition, I fail to see how the clause affords any protection whatever to the surgical profession, except against the incursion of future claimants of the same class.

I give Sir John Lubbock's Act the full credit of "eventually" improving the position of Dentists. But that happy "event" cannot arise until death has removed from the "Dental Register" the 5,060 chemists, druggists' assistants, and self-dubbed Dentists whom Sir John Lubbock has placed upon its pages. That process of expurgation will occupy at least thirty years, and it may well be doubted whether the eventual improvement of Dental Surgery as a profession has not been dearly purchased by its utter humiliation for the coming quarter of a century.

No doubt the next generation of medical men will have occasion to thank Sir John Lubbock for his Act, and—if they. and he, and the University of London exist when the nineteenth century has lapsed—no doubt the Medical Graduates of that time will return the honourable baronet triumphantly for their University, but until then, it is certainly too soon to ask for their gratitude and their votes as Mr. Tomes did in his letter which evoked my protest.

I am, Sir, yours, &c.,

ARCHIBALD H. JACOB, M.D. Dub., F.R.C.S.I.

Ely Place, Dublin, June 21st, 1880.

Annotations.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

THE following gentlemen passed their first professional examination during the recent examinations for the license in Dental Surgery :—James Stewart, Perth ; James Stewart Durward, Edinburgh. Both gentlemen are students of the Edinburgh Dental Hospital and School.

ROYAL COLLEGE OF SURGEONS OF ENGLAND PAST LIST.

The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Licentiates in Dental Surgery of the College at a meeting of the Board of Examiners, on June 25th :—George W. Parkinson, Sackville Street, M.R.C.S., April 1879 ; and William R. Humby, Newgate Street, of St. Bartholomew's Hospital ; Richard D. Ashby, Scarborough. Richard G. Bradshaw, Streatham, and Alfred Smith, Devonshire Road, of the Middlesex Hospital ; Frederick N. Pedley, Camden Road, of Guy's Hospital ; and Joseph Holland, Sloane Street. L.D.S. Edin. All the candidates passed.

THE DENTAL BOARD OF THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

Mr. Alfred Coleman, F.R.C.S., L.D.S., &c., and Mr. Augustus Winterbottom, F.R.C.S., have been appointed Members of the Dental Board of Examiners of the Royal College of Surgeons of England, as Examiners in Dental Surgery, in the place of Mr. Thomas A. Rogers, retired, and Mr. J. H. Barrett, resigned.

ETHIDENE-DICHLORIDE.

It has been suggested to us that in not stating that the death, we recorded as occurring under this anæsthetic, was in an individual the subject of extensive fatty degeneration of the heart, we were doing an injustice to the agent, we willingly insert this notice, but we referred our readers, at the same time, to the source from which all the particulars of our information were derived. Fatty degeneration of the heart being a disease very difficult to discover, in most cases, during life, we cannot and do not regret our caution in regard to the employment of ethidene-dichloride, believing that anæsthetics in which chlorine forms a part are less safe than those composed of hydro-carbon only. A death, however, occurring in the early employment of any anæsthetic, does not of necessity pronounce it to be less safe than any other, a longer experience might prove it in the end to be the safest and most efficient of all, but such experience should only be obtained at the hands of the most qualified specialists.

A NEW BONE.

In the *Journal of Anatomy and Physiology* there is an account by Mr. S. G. Shattock of an anomalous skeleton: The skeleton is that of a foetus. There are rachitic changes in the bones, possibly of syphilitic origin.

"The auditory ossicles are fully ossified and the tympanic bone well developed. That portion of Meckel's cartilage which suspends the lower jaw has undergone complete ossification, and forms a cylindrical process of bone continuous with the malleus, and passing from the tympanum between the tympanic ring (which is boldly arched over it) and the spinous process of the sphenoid bone. The manubrium of the malleus is not of lesser size than usual, whilst the opposite process, in place of being more slender, is fairly twice as thick. The distal extremity of the unnatural process is slightly enlarged, so as to make the whole somewhat club-shaped. This abnormal process, however, does not itself abut against the lower jaw; the two are connected by a short flattened, pointed, or spatulate bone, of which the distal and the larger end is articulated (apparently by continuity) with the enlarged extremity of the 'processus gracilis,' whilst the other end is articulated with the spine which overtops the anterior margin of the inferior dental canal; this articulation also appears to have been one of continuity, either by cartilage or fibrous tissue. Thus, on either side, between the lower jaw and the malleus, is a bone, though small, yet quite distinct, of definite form, equal on the two sides and symmetrically evolved."

From these facts, Mr. Shattock deduces certain morphological conclusions. Disease had no doubt caused an excess of ossification, but the ossification had proceeded "in conformity with a type" and produced a

quadrate bone and an *os articulare*. The part of Meckel's cartilage which generally is supposed to disappear is ossified, and the result occupies the situation of the internal lateral ligament. Has not this fibrous structure then the same relationship to the mandibular arch as the stylo-hyoid ligament has to the arch below it? Is it not the permanent representative of the original suspensorium between the malleus and the lower jaw?

"The morphological significance of the ligament might be marked by naming it the suspensorium."

EXPURGATION OF THE DENTAL REGISTER.

We observe with satisfaction that the British Dental Association is taking decisive steps towards removing from the Dental Register the crowd of chemists' assistants who have obtained admission thereto by representing themselves as "*bona fide* in the practice of dentistry in conjunction with pharmacy." The Association has sent to a number of these persons a circular, which says—"Your registration in the Dentists' Register is, in the opinion of counsel, a clear violation of the provisions of the Dentists' Act. The Representative Board therefore suggest that you should, in writing, request the Registrar to remove your name from the Dentists' Register. Should you not see fit to follow this recommendation within fourteen days from the date of this letter, the Board will feel bound to bring the case before the General Council, the possible result of which proceeding will be that your name will be erased from the Register, and that you and the witness to your declaration are liable to be proceeded against under the appended section of the Dentists' Act, which was prominently printed upon your declaration paper."

The point made by the Dental Association is that no one can be in the practice of pharmacy in the eye of the law, except a person qualified under the Pharmacy Act, and it is distinctly the opinion of the counsel consulted, that the work done by an assistant to a chemist is not, in law, the practice of pharmacy. If this be so—and we fully believe that it is so—not one of those unregistered chemists' assistants have declared with truth that they are *bonâ fide* in the practice of dentistry in conjunction with pharmacy; and, if this be satisfactorily shown to the General Medical Council, that body must strike them off the Register *in globo*. The Council will, of course, *more suo*, try to shirk its duty in this matter, but we hope that the Dental Association will not permit such evasion, and it is satisfactory to observe that the editor of the *Chemist and Druggist* advises his constituents as follows:—

"If the Medical Council should decide against our view, we would submit with a protest, for the results involved would not be worth the expense of a legal contest with such a body."—*Medical Press and Circular*.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. VI.

AUGUST, 1880.

VOL. I.

Celebration.

MONDAY, July 26th, 1880, will long live in the memory of those who were drawn to assist at the triple celebration of that most interesting occasion. In the forenoon, a goodly gathering of representative Members of our profession in London and from the provinces, met together for the purpose of ratifying or modifying the bye-laws of the British Dental Association—an institution, which in the breadth of its sympathy and comprehensiveness of its views, is destined to play an important part in the future by promoting a feeling of brotherhood, and a community of interest throughout the whole body of Dental practitioners.

Later in the day their ears were regaled with the sound sense and polished periods of the orator of the day, who was specially appointed by the President to deliver the address, which was listened to with that respectful attention which the utterances of Mr. Coleman never fail to command. To this, succeeded at 4.30 the ceremony of the presentation of the Tomes and Turner Testimonial, in which the interest of the day seemed to culminate. As the hour approached for this, the most interesting (in many

respects) of the day's proceedings, the large room became filled with an eager and enthusiastic crowd, who hastened to respond to the invitation of the Committee, and to show by their presence their appreciation of the services of those whom they came to honour. And seldom indeed, we venture to think, has a ceremony of the kind passed off with more general and entire satisfaction to all concerned, or in which there was less room for the sense of imperfect success, which too often accompanies similar demonstrations.

Whether we regard the graceful and asthetic style of the address by Mr. Thomas Rogers, or the strong and pregnant sentences uttered by (we had almost said) the venerable central figure in the day's celebration, all was just, all was admirable. The Dinner presided over by the Vice-President of the Association, in his well-known genial and urbane manner, brought the first meeting to a successful and fitting termination.

As our readers are probably aware, it has been decided to postpone the annual migrations of the Association till 1882, in consequence of the great International Medical Congress being held next year in London, so that the Sectional Meeting in Odontology shall synchronise with that of the Association. Great efforts are being made to render this International re-union fruitful of scientific results, as well as interesting to our foreign visitors, and we trust that the Odontological Section may hold its own in all respects with the other departments of Medicine and Surgery. To this end we would urge all who contemplate contributing papers on subjects of scientific or practical interest, to put themselves early in communication with the Secretary, Mr. Charles Tomes. Nor would we omit to express a hope that all those who retain a pleasant recollection, like "a sweet savour" of the meeting just passed,

will use their best endeavours to bring those who are not yet enrolled, within the ranks of the Association.

IN a recent number of the *Lancet* there appeared an invitation to receive, from those acquainted with the matter, communications "on the subject of tooth extraction and replacement." The invitation was, however, hampered with restrictions that debarred any individual who did not possess a surgical or medical diploma from contributing; thus excluding a class of practitioners, viz., the holders of a Dental Diploma, whose very course of study would have rendered them the best qualified to treat on such a subject both from a scientific and a practical point of view. The result of this very unusual course upon the part of the *Lancet* has, up to the present time at least, been a marked failure, for not only have the opinions of the Dental Licentiates been silenced, but the majority of those practising Dental Surgery, with Medical and Surgical Diplomas, disapproving strongly of the limiting clause, have held their peace.

Out of a number of communications two gentlemen only attempt to give anything like a description of either the process or the pathology of transplanting or replanting teeth, and both have evidently had little or no personal experience of the operations. The first, an M.D., states that, to obtain success in the latter operation the extracted tooth—a tooth of a single root—must, before being returned to its socket, "be more or less shortened, smooth grooves formed to help to secure retention, which is entirely mechanical, dependent wholly on lateral or horizontal pressure. . . . A transplanted tooth is a lifeless substance, wholly divested of all means of vital or reciprocal union, essentially a foreign body, alien

to all growth of this part tolerating its presence, and always working to throw it out, and prevented only from doing so at once by mechanical impediments. . . . A simple porcelain tooth with fang would be, perhaps, less objectionable than the one extracted."

The other writer alluded to takes a more rational and a more scientific view of the question; but from his own admission speaks wholly as a theorist. He states that he is aware, from announcements, that the twofold operation alluded to has been favourably accomplished both in America and at home, but until they are verified by the exhibition of one or more cases that have stood the test of at least a year's probation, his experience over a long period will forbid his yielding credence to an affirmation at startling variance with the physiological laws bearing upon the subject, as at present understood. We are, perhaps, not absolutely correct in stating that only two of the writers attempt to give anything like a description of the physiology of the process, as a third writer, speaking like the above, without practical experience, says: "The fact of rupturing the vessels and nerves at the apex of the fang of the tooth is sufficient to render that tooth dead; its only source of vitality then being the intra-alveolar layer of the periosteum of the maxilla, and should it not unite with this it becomes a source of serious inflammation, leading perhaps to necrosis and exfoliation of the bone." The other writers are gentlemen who record isolated cases of teeth which have been removed and returned with more or less successful results. One of the later writers records cases, the truth of which, however, he does not vouch for, where teeth loosened from scurvy have been removed, their fangs scraped, and returned to their sockets; a matter of much interest from such opera-

tion having been systematically advocated and carried out in certain conditions of dental periostitis.

Now had the editor of the *Lancet* adopted the ordinary course pursued, we believe, by medical literature in general, viz., in making the grounds of selection contingent upon merit in the communications rather than upon the professional qualifications of the contributors, its readers would have had no cause for the just complaint of one of them who states "that up to the present time the thing which has appeared to me the most remarkable has been the small amount of light thrown upon the subject by our Dental brethren," contributions would we believe have flowed in freely from Dental practitioners who had for years attempted at various times both operations of transplantation and replantation, and who had carefully studied the physiology and pathology of both processes. Its readers, we doubt not, would have been told that a tooth derives its supply of blood and nervous influence—or, in other words, has its vitality maintained—by two sources; 1st, the vessels and nerves which enter the foramina at the apices of the roots of teeth, and which go to supply the dental pulp maintaining the vitality of the dentine and also of the enamel, if that structure be, as some recent authorities believe it to be, a living one; and 2nd, by the vessels and nerves which enter the alveolo-dental membrane, which maintain the vitality of that structure and the cementum covering the fangs, with which it is intimately connected. Now it is found by the experience of daily practice that the first mentioned supply may be cut off, and, with proper precautions, the tooth retained for many years as a useful member. In the destruction and removal of a dental pulp for the object of filling or pivoting a tooth, this, of necessity, occurs; the vacated space being occupied by some

substance that will prevent any access and accumulation of fluids which might undergo septic changes and become a source of irritation to surrounding structures. But it is not absolutely necessary at all times to remove the contents of a pulp cavity to ensure this; the pulp may be allowed to remain when not decomposed without irritation of necessity ensuing. We occasionally meet with teeth in which the pulp has lost its vitality, and which have never proved a cause of trouble; in the front teeth especially, we have sometimes found the pulp cavity to have been exposed by caries, and to have lost its vitality, the resulting substance being a dry, inoffensive, pithy material, and this condition we have attributed to a gradual occlusion of the vessels of the pulp, a species of dry gangrene resulting. Again, in the very numerous cases recorded where teeth have been accidentally removed and returned to their sockets, and have afterwards done good service for many years,—facts, that appear not to have reached the ears of some of the contributors to the *Lancet*, and which seems almost incredible to us,—it is most unlikely that the vessels communicating with the dental pulp ever re-united so that that organ continued as a living structure. In the very interesting preparation in the Museum of the Royal College of Surgeons, where a tooth transplanted into the comb of a cock, by John Hunter, shows that some of the material with which it is injected has passed into the pulp cavity, it has been pointed out by Mr. Vasey to have been a young tooth with an imperfectly formed fang, and in which such might be hoped for, but in older and perfectly formed teeth, it is far more probable that the small amount of organic matter forming the pulp, simply undergoes a fatty metamorphosis, as do portions of devitalized animal matter when in contact with living tissues;

to wit, the cases where such substances have been introduced without detriment into the peritoneal cavity of animals. So long, then, as the portions of animal structures, although devoid of life, possess no septic or other irritating conditions, they may be tolerated in contact with living tissues, as are encysted bullets and other wholly foreign substances.

Provided then that a tooth be perfectly free from septic or irritating material, its dentine though devoid of vitality—being in the condition of ivory, as we employ it for useful purposes—may continue to exist for years in immediate contact with living cementum, the vitality of which structure is maintained through the vessels and nerves of the Dental periosteum, and consequently if a tooth be removed from its alveolus, and with the least possible injury to the said membrane or its cementum be returned to it within a moderate time—cases of success after five and six hours have been recorded—we may expect that in the large majority of cases a re-union of the vessels and tissue generally of the alveolo-dental membrane will ensue, and the tooth prove as durable and serviceable as one in which the pulp has been destroyed and otherwise properly treated for dental caries.

As we have already occupied more space than we can usually allot to a leading article, we must reserve to a future number a description of the processes of transplantation and replantation, also that of transplanting dried teeth, *i.e.*, teeth devoid of living alveolo-dental membrane, cementum, dentine, &c.

The Antiseptic Treatment of Roots.

By ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S., ENG.

THE attention of the profession having been of late greatly occupied in investigating the merits of Antiseptic Surgery, it may not be altogether unprofitable to consider how far the antiseptic principles are applicable to the teeth; and, if applicable, what the practical result of their application will be.

With this view I have for the last year been employing two very powerful antiseptic agents in the treatment of dead roots, Eucalyptus oil and Iodoform, with very satisfactory results.

Eucalyptus oil and Iodoform are both very much more powerful antiseptics than carbolic acid and their effects are much more permanent.

When a tooth dies, partially or wholly, the slough which remains differs in no respect from a slough in any other part of the body; if it become septic, (as in the natural course of events it must), it will cause inflammation and suppuration, and be rejected from the living economy. Furthermore if these products of inflammation be prevented from discharging themselves through the open cavity, owing to presence of a filling they will collect inside and force their way up the fang, and end by causing an alveolar abscess. Now if a local slough in any other part of the body be rendered, and kept perfectly aseptic, the behaviour of the parts is very different, there is neither *irritation* nor *inflammation*, the dead tissue, remaining perfectly white, pure, and sweet smelling is gradually removed by absorption, not rejected as discharge; the temperature does not rise, there is no pus; the slough is quietly absorbed and replaced by new, living, cicatricial, connective tissue. This result may be seen at any time in Professor Lister's hospital practice or any where else, where the antiseptic precautions are punctiliously observed.

If then this asepticity be produced in the pulp cavity of a necrosed tooth, that is if all the bacteria it contains be

destroyed and the entrance of fresh ones prevented, then the slough it contains, whether it be part or all of the pulp may be sealed up with an impermeable filling, without fear of any of the unpleasant sequelæ above alluded to. The slough will be removed not by inflammation and suppuration, but by absorption and replacement by cicatricial tissue. There will be no abscess because there will be no inflammation, the dead pulp having been rendered inert.

From theory to turn to practise, the whole gist of the matter lies in the words *perfectly aseptic*; antiseptics to be any use at all must be carefully and thoroughly applied.

The method of procedure I have adopted has been very simple, and hitherto invariably successful. It has simply consisted in clearing the cavity, removing a little of the slough from the pulp cavity, and dressing the tooth with Eucalyptus oil and Iodoform on a piece of wool every day (the patient can do this for himself if necessary), until no smell but that of Eucalyptus oil can be detected when the dressing is removed. It may then be sealed up with gutta-percha, as an experiment (the encalyptus has a slight solvent action on gutta percha, which renders the stopping very perfect). If it is perfectly aseptic, there will be no disturbance, and the tooth, after three weeks or so, may be permanently filled. If the aseptic condition is not perfect, the patient will soon experience unpleasant sensations, in which case, the gutta percha must of course be taken out and the dressing resumed, and the gutta percha tried again after another interval. Of course all pus and debris should be removed first with an excavator.

The smell and taste of Eucalyptus oil is rather pleasant, and it causes no irritation whatever to gum or lips, and this is no unimportant point to a patient who has to use the dressing for a long time, especially if he has had any previous experience of creasote.

Under these circumstances, if a pulp be partially dead, or if one root be dead and the other living, it is not necessary to destroy the living part with arsenic.

Lastly, in the case of an alveolar abscess, the effect of Eucalyptus oil when injected, is more rapid and effectual

than that of any other agent with which I am acquainted, because its antiseptic powers are not only greater, but *more permanent*, which latter is a very important point in regions where bacteria teem as they do in the mouth.

The power of Iodoform to avert suppuration, has been much testified to recently in all the medical papers, and the rapidity with which I myself have seen chronic ulcers and soft chancres disappear under it, is almost magical. Eucalyptus oil dissolves Iodoform, so that they can be easily used together. I have the notes of a good many of the cases I have treated in this way, and in one of them there was an extensive alveolar abscess in connection with the palatine root of an upper molar, and this was complicated by very acute neuralgia of the second division of 5th pair of four days standing; the neuralgia yielded to three (10 gr.) doses of chloride of ammonium, and the abscess soon disappeared under Eucalyptus oil—after a long period (about three weeks) of dressings, I tried sealing the cavity.

In five hours there were signs of disturbance, and the filling was, of course, removed. After a month more dressing (every other day) the sealing was successful, and the tooth is now filled with amalgam, and is, for the first time for two years, a perfectly serviceable member. I would further urge that the less we interfere with nerve ends, by killing them with arsenic, cutting them away, extracting with nerve extractors, &c., the better. The removal in toto of the pulp, the only internal source of life to the tooth, and its replacement by a foreign body is a grave liberty to take with nature, and one that she often resents. Again, the pain that is caused by the investigation of the canal to see how far the dead part extends, testifies to a certain irritation that were better, if possible, avoided. In fact the less pain we give the better, as pain is always a sign of injury. Lastly, I would add, that quite apart from its antiseptic properties, Eucalyptus oil is said to possess a local anæsthetic power, lulling the sensibility of aching teeth and sensitive dentine. This property was alluded to in a paragraph of a few lines in the *British Medical Journal* last year.

Although sufficient time has not yet elapsed to warrant too much reliance on the results I have hitherto obtained, yet they are quite sufficiently conclusive to induce me to lay them before the profession.

British Dental Association.

THE first general meeting of the members of this Association, was held on Monday the 26th ult., at 40 Leicester Square. The chair was taken by John Tomes, Esq., President of the Association. The following members were present :—

Richard Rogers, Cheltenham ; W. H. Waite, J. R. Goepel, R. E. Stewart, J. G. Roberts, Thos. Dilcock, W. J. Newman, Liverpool ; W. B. Bacon, Tunbridge Wells ; J. C. Foran, Eastbourne ; Sidney, Warmald ; Thomas Machonie, Sheffield ; George W. Payne, A. Woodhouse, Charles Vasey, Oakley Coles, Harold Halliday, Wm. F. Willis, John A. Danks, Thomas Gaddes, Charles S. Tomes, Alfred Coleman, Thos. Underwood, G. W. Ibbetson, Frederic Canton, James Parkinson, Thomas A. Rogers, Joseph Walker, Henry Moon, John Tomes, F.R.S., James Smith Turner, A. B. Alexander, William Willis, Louis Maitland, George Torpey, Joseph Holland, Geo. Cunningham, London ; Henry Campion, Manchester ; W. H. Ridge, Stafford ; W. M. Fisher, Dundee ; John O'Duffy, Dublin ; F. J. Van der Pant, Kingston-on-Thames ; Edward Thos. Cooksey, Worthing ; A. Pitowsky, Barnstaple ; John Dennant, Brighton ; John Howard Kyan, Preston ; Samuel Lee Rymer, J. Henry Whatford, Croydon ; John A. Fothergill, W. H. Ridge Stafford, Darlington ; James Hinds, John J. W. Whitelock, Coventry, and many others.

The TREASURER, (Mr. James Parkinson), stated that he still held in hand balance of £124. He congratulated the Association on the number of members, as each member contributed to increase his balance. His report was as follows :—

RECEIPTS.				DISBURSEMENTS.			
	£	s.	d.		£	s.	d.
Balance from Reform Fund	221	10	0	Outstanding account of Dental Reform Fund	18	8	9
Subscriptions & Donations	469	9	0	Law Expenses	65	4	6
Sale and proceeds of Journal	51	4	5	Journal expenses including Purchase, Printing, Publishing, and fees to staff	407	18	10
				Sundry expenses ..	126	11	4
				Balance in hand	124	0	0
	£742	3	5		£742	3	5

The SECRETARY (Mr. J. S. Turner), stated that since the institution of the Association sixteen months ago, they had enrolled 383 members, of these

330 were resident in England, 33 in Scotland, and 4 in Ireland. Of the English members, there were 112 resident in London, and 3 in the Channel Islands. The members resident abroad were; in New Zealand 3, Australia 2, West Indies 2, Monte Video 1. and in India 1. There had been 3 resignations, so that the present list of members stood at 380.

THE PRESIDENT'S ADDRESS.

It will not be necessary for me to do more than allude to the General Meeting of the profession which took place on the 3rd of March, 1879, when resolutions were unanimously passed constituting the British Dental Association, and entrusting its organisation to the past and present Members of the Dental Reform Committee, who were then elected a Representative Board with power to add to their number, and the Board so constituted was entrusted with full powers of action. The three resolutions will probably be fresh in the recollection of those present. Acting on the power therein given, the Board was, in the first instance, occupied with framing a code of Bye-laws; with watching the evidence given before the Select Committee on Medical Bills; in considering the Dental questions which came before the Medical Council, and in more than one instance taking steps, by means of memorials, towards the preservation of the spirit and provisions of the Dentists' Act. The Board has, in fact, found its hands very full of business, involving an amount of work, which on the part of the officials was scarcely contemplated. Before many months had passed, it became apparent that the organisation would not be complete or fully successful without an organ, which should authoritatively represent the actions and views of the Association, be published with regularity, and forwarded to each of its Members, and, at the same time, be wholly independent of the crippling consideration of pecuniary gain. In securing the *Monthly Review of Dental Surgery*, this end has been so far attained. In accepting the responsibility of publishing a Journal, and in view of the further responsibility already accepted of protecting the interests of the profession, and of supporting the spirit and provisions of the Dentist's Act by all justifiable means, legal and otherwise, it was felt that some limit should be put to the consequent individual liability of the Members of the Association. The so-called Companys' Act afforded the means. The Association is now incorporated, and the liability of Members individually, so long as they keep within the terms of the Memorandum and Articles of Association, is limited to one guinea. A further advantage is secured. The Memorandum defines the end and aims of the Association, and renders them permanent. The business of the Association must be carried on strictly within those lines, which, short of the dissolution of the corporation, cannot be changed. On comparison, it will be seen, that the Memorandum of Association embodies the resolution adopted at the Public Meeting of March 3rd, 1879, and that the Articles embody

the principles of the Bye-laws to which we had all assented, as Members of the unincorporated Association. I believe, each Member of the Association, has received a copy of Bye-laws, drafted to conform with the Articles of Association, and extended so as to meet the requirements of periodical publication, and of branches. It will be our first business to consider and determine the Bye-laws—the draft of which being in the possession of each Member, may be considered as read.

In addition to the work involved in the organisation and consolidation of the Association, the Representative Board has been actively engaged in the investigation of the claims of certain persons whose names appear in the Dentists' Register to remain thereon. We are advised that very great abuse has been practiced, that many persons have caused themselves to be registered whose claims to registration cannot be supported. In the opinion of Counsel, persons who rightly claimed to be registered in the Dentists' Register, as in the practice of Dentistry with pharmacy, must have been legally entitled to practice pharmacy, and in order to this they must have been registered in the Chemists' and Druggists' Register. If not registered in the latter register, the declarations they made were incorrect if not fraudulent, and their names are liable to be erased from the Dentists' Register. Yet upwards of 400 persons were on their own delarations thus registered. Letters have been addressed to each person so circumstanced, stating, that in the opinion of Counsel, he is liable to have his name erased, and suggesting that he should withdraw his name from the Dentists' Register, and, further, that if he fails to do so, his name will be submitted to the Medical Council. A large number have adopted the suggestion and withdrawn, but the majority to the number of 320 have not acted upon the advice of the letter. The names of these have been brought before the Medical Council, and on Thursday last were referred to the Dental Committee of the Council. You will remember that the finding of that Committee will be conclusive as to the facts, and if the legal opinions with which we have been furnished are correct, very many names will no doubt be erased from the Register under Sect. 13 of the Act, and there is reason to hope before the publication of the Register for 1881. Again, persons have declared themselves to be engaged in the practice of Dentistry separately, but who it is alleged were practising Dentistry in conjunction with some calling not recognised in the Act. These persons are, in the opinion of Counsel, liable to have their names erased from the Register. Several cases of this form of incorrect registration have been submitted to the General Medical Council, and have also been referred to the Dental Committee of the Council for examination as to the facts of the respective cases.

Thus far have we gone, and I think the Association will not condemn the Board for want of activity, of earnestness of purpose, or of intelligent proceeding. Still much remains to be done in the direction of correcting the Register. There are, no doubt, persons who obtained

registration on colourable grounds only, who based their declaration (for which they are alone responsible) that they were in the *bonâ fide* practice of Dentistry, upon having performed occasionally some trifling dental operation, and such persons, in the opinion of Counsel, are liable to have their names erased from the Register. Then again, it is alleged that students, apprentices, and even lads on weekly wages have caused themselves to be registered. In addition to the cases of incorrect registration, the Members of the Association will, in the interests of the profession, be required to direct their attention to cases of unregistered persons, and of persons personating registered persons, who, in violation of Section 3 of the Act, take the name of Dentist or some other designation indicating that they are specially qualified to practice Dentistry, &c. Any person or association may prosecute, under Section 35 of the Act, those who have falsely obtained registration, but the consent of the Medical Council, or of a Branch thereof, must be gained before an action under Section 3 would stand instituted by other than the Council itself, a Branch Council, or a medical authority. In cases of the kind under consideration, the particulars of each must be obtained and laid before the Council or a Branch, with a request for an assent to a prosecution; and this preliminary step must be taken whether a prosecution be undertaken by the Association, or privately by one or several persons; but when the consent is obtained, the penalties may be enforced at a meeting of two or more Justices of the Peace. In cases occurring in Scotland or Ireland, it may be found convenient to get the assent of the Scotch or Irish Branch of the Medical Council, and local combinations of practitioners can, with small cost and little trouble, bring the case before the local magistrates. It is probable that the procedure by local associations formed for the occasion, will—on consideration of all the attendant circumstances—be found the most convenient and least costly arrangement for staying this form of infraction of the Dentists Act.

Now it must be distinctly understood that the Board can take no action whatever in the several classes of cases to which I have drawn attention, without the assistance of Members of the Association, or of others who are acquainted with the facts of the individual cases, and who will furnish to the Board exact and conclusive information, such information as will, should occasion require, be producible and conclusive in a Court of Law, or who will place the Board in a position to readily gain such information. Vague allegations, unsupported by producible facts, newspaper cutting without date or title, cards without a record thereon of the date of reception by the sender, and the like, tend to occasion trouble only, and to the increase of correspondence, which has hitherto been overwhelming, and the duties of which, though admirably performed, have been extremely oppressive to your Honorary Secretary. Before leaving the subject of registration, I wish to remark emphatically that we are concerned

in the administration of an Act of Parliament, and that if we attempt to break through the lines laid down in the Act, we shall but waste our time, our temper, and perchance our money. We have to do with what is, not what we fancy should be, or might have been. For instance, we may dismiss at once the idea entertained by some persons that we can prevent unregistered persons from performing Dental operations. We can prevent them from using the titles (cited in Section 3 of the Act) indicating that they are qualified to perform such operations, and we can show that they cannot legally claim Dental fees; but a person, if he thinks fit, may employ the village smith to cut off a limb or extract a tooth, and no harm will come to the smith if he performs the operation without inflicting needless injury to the patient. The correction of the Register, being the most pressing subject, will of necessity for a time occupy the attention of the Association, and this necessity will justify the large space the registration questions occupy in the present Report. The lapse of time in no way condones or protects persons who have wrongly registered, but it is reasonably hoped that the business of expurgation will, at no distant time, give place to more agreeable subjects. In the meantime, we must accept the duties that come before us, and if we would secure to ourselves and immediate successors all the advantages which the Dentists Act provides, we must, guided by good faith and the exercise of a liberal spirit, do all in our power to further the correction of the Dentists' Register. We are travellers on a road which leads to professional learning. The Dentists Act is our permanent way, the Medical Council and the Medical authorities our locomotion, the Dental Practitioners must provide stokers and fuel, and our young men will be the passengers.

The meeting then proceeded to the consideration of the Bye-laws, the President stating that it was necessary to modify them so as to meet the necessities of the publication of the journal, and the recognition of Branch Associations.

Bye-law 15 was amended so as to make the Presidents of the Branch Associations members of the Representative Board.

Bye-law 18, referring to the annual election to fill up vacancies on the Representative Board, was amended by the insertion of the words, "But Members resident in districts or in towns fully represented by Branches of the Association, shall at the request of the Representative Board, be nominated by such Branches."

Bye-law 29 gave rise to some discussion. The Bye-law provides that "Any number of members, not being less than twenty, may form themselves into a Branch of the Association, subject to such Branch being recognised by the Representative Board."

MR. CUNNINGHAM said every one connected with the Association would admit the advisability of the formation of Branch Associations, but in this case the question arose with regard to the qualification requiring a

certain number of members "not less than twenty." He believed it would be advisable to establish a Branch in the Eastern Counties, but he found they could only reckon upon obtaining seven or eight members in the whole district proposed to be included. Such a branch society would be a very weak affair; still he thought the rule might be modified, and would move, "That ten be substituted for twenty."

The PRESIDENT said the question was a very important one, and every encouragement should be given to the formation of Branches. He thought, however, when the number was less than twenty, it should be understood to be a sub-Branch, and not a Branch entitling its president and secretary to sit at the Representative Board. If they had Branches consisting of ten individuals they might create a Representative Board so large as to be utterly unworkable.

Mr. CUNNINGHAM moved "That ten Members may unite in forming sub-Branches, which sub-Branches shall become entitled to the position of a Branch-Association when they number twenty members."

Mr. CAMPION seconded the proposition.

Mr. RYMER said the only objection to the proposal was the multiplication of names. He was inclined to think the number of a Branch might be ten, and that the difficulty would be met by adding to the 15th Bye-law these words, "And the Honorary Secretary for the time being of each Branch, consisting of not less than twenty members." That would provide that unless a branch consisted of twenty members its President and Secretary should not be entitled to a seat on the Representative Board.

Mr. CUNNINGHAM said their difficulty in the Eastern counties was this: that, with the exception of Norwich, there was no town containing two or three Dentists; there was therefore a great deal of isolation amongst them, and he believed some provision should be made, in order to bring them together. He could testify to the influence that even small societies would have, in raising the moral character of the profession, and urged that a better acquaintance, for the purpose of consultation, would be very advantageous.

The resolution proposed by Mr. Cuningham was put to the meeting, and agreed to.

Other verbal alterations, consequent upon the foregoing resolutions, having been made in the bye-laws, they were unanimously agreed to.

The PRESIDENT said the next business was the nomination of the President-elect.

Mr. UNDERWOOD said that inasmuch as the meeting in 1881 would be held at the same time as the great Medical Congress, which was to meet in London, it was important that their President on that occasion should be a man, who, in the most extended sense, was master of the subject of the formation of the Dental Association. Under these circumstances, he was sure the meeting would unanimously support him in proposing that Mr. Tomes be requested to act as President on that occasion.

Mr. RYMER seconded the proposition, which was carried by acclamation.

The PRESIDENT said he regretted that he had been nominated, for he might very likely not fulfil the purpose for which the President elect formed one of their officers. However, there was this consolation, that it was provided by the bye-laws, "That in the event of the death, resignation, or *incapacity* of any officer of the Association, the Representative Board may appoint the successor." The next point to be considered was the place of meeting. Next year there would be a great International Medical Congress, perhaps the largest meeting of medical men that has ever taken place. Almost every medical man of note in the metropolis was concerned in the matter, and persons of eminence in every country would be invited to attend. A Dental section had been organised, with Mr. Saunders as its President, and Mr. Spence Bate and himself as vice-presidents, his son, Mr. C. S. Tomes, being Honorary Secretary. It appeared to some, with whom he had had the opportunity of consultation, that it would be impossible next year to get up, at different times and places, two great Dental meetings, namely, a meeting of that Association, and also a meeting of Dentists, to fully represent the subject of Dental Surgery in the eyes of the world. It was very desirable that Dentists should make a good appearance at that Congress, and therefore he would suggest that the meeting of the Association be held in London, and about the time of the great International Congress, when Members, no doubt, would have the opportunity of making the acquaintance of a considerable number of foreign gentlemen of their own calling. Under these circumstances, he would ask some gentleman to propose that the meeting next year should be held in London.

Mr. STEWART proposed, and Mr. KYAN seconded, "That the first Annual Meeting take place in London, between the 1st and the 9th of August, 1881."

The resolution was agreed to.

On the motion of Mr. WOODHOUSE, seconded by Mr. MOON, Mr. Parkinson was re-elected Treasurer of the Association.

Mr. CUNNINGHAM, in proposing a vote of thanks to the President, wished to state as a provincial Member, what an excellent example the Metropolis had set the other large towns in the kingdom. It was very gratifying to see so large a number of London Members belonging to the Association. It would be well if some of the larger towns both in Scotland and Ireland followed the example of London, and took a more prominent part in the Association. He asked them to accord a very hearty vote of thanks to the President, for his services in the chair.

Dr. BELISARIO said no doubt the position which the British Dental Association had taken was in a very great measure due to the fact that they had so excellent a President—a man who enjoyed the confidence not only of the whole profession in the Metropolis and throughout the

provinces, but also occupied a very high position in the medical and scientific world. They were doubly indebted to Mr. Tomes, not only for the active services he had rendered, but the moral influence which his name gave to the whole of their proceedings.

The PRESIDENT having briefly responded, Dr. WALKER proposed a vote thanks to the Treasurer and Secretary, which was carried by acclamation."

The meeting then adjourned, and at three o'clock

Mr. ALFRED COLEMAN delivered the following address:—

MR. PRESIDENT AND GENTLEMEN,—When about six weeks since I was honoured with the request that I should deliver an address before the first meeting of our Association "On the Progress of Dental Surgery," I felt that as regarded the subject itself there could be little difficulty, it being generally acknowledged that no branch of Medical or Surgical science has during the last half century made such rapid strides as this; but difficulties I felt lay in the way of duly tracing to their proper and legitimate sources, the causes that have chiefly led to this advancement, many of which were in themselves as much political as they were scientific.

I have, unfortunately, arrived at a period of life when the events of nearly half a century ago are becoming within the range of my memory, and what my own recollection cannot carry me back to, has been supplied to me, many years since, at the lips of veritable witnesses, but whose voices have ceased to be heard in the land. Unhappy circumstances in my early youth, and at a period of life when our impressions are said to be most durable, enable me with the before-mentioned assistance to picture to my mind a room into which I have just been ushered, illuminated by a large window, in front of which is placed an arm chair of the variety now generally seen in the dressing-rooms of very old houses, covered by an exceptionally clean chintz; facing the chair is a washstand, or lavatory, on which hot and cold water are placed respectively in metal and earthen receptacles, also a variety of small stoppered bottles, giving forth the unmistakeable odours of creosote, oil of cloves, and tincture of myrrh, whilst a hand glass, and glass of much smaller dimensions, complete its requirements. On a table, at a short distance, covered by a clean white cloth, we espy four morocco-leather cases lined with white satin, into which we pry. The first contains a fearful corkscrew-looking instrument of polished steel, with ivory handle, whilst in a side compartment are seen some suspicious-looking hooks with serrated points; two pairs of forceps are likewise visible, the blades of which, also serrated, are, when closed, nearly parallel; an elevator perhaps, a gum lancet, a tenaculum, and some cotton wool and lint complete its contents. The next, a somewhat smaller case, we find to hold what we now know to be excavators, six in number, and six pluggers, all with elegantly carved mother-of-pearl handles. The third case contains six scaling instruments,

with still more elaborately carved handles ; whilst in the fourth case we find some small books containing leaves of gold and tin foil, the books bearing the name of a refiner of precious metals : besides the cases, the table supports a small bottle of metallic filings, labelled mineral succedaneum, a bottle containing quicksilver, and in the rear a number of neatly done up circular boxes and little bottles, one of each being open to show that our consultant dispenses as well as operates and prescribes ; that he is in fact, in regard to Dental Surgery, a general practitioner, and that further for the greater convenience of his patients still, his servant will supply them with tooth-brushes, guaranteed by bearing the name of his master ; a small jeweller's work bench, with the ordinary compliment of furniture, probably complete the contents of the surgery, of which, if we have given too meagre a description, it is because our attention is diverted by the entrance of an elderly gentleman, garbed in a coat and slippers of brightest colours, which would indicate that as calls may be made upon his services at all hours both of night and day, he is compelled to assume a costume that partakes of both. "What have we come for ?" is demanded, to which we reply, "an aching tooth." We are seated ; it is examined, "Can it be stopped ?" we suggestively inquire, our idea from the term comprehending both the stopping of the pain and the filling of the tooth ; well, perhaps, if the nerve is not exposed, and this sentence is followed by the introduction of the tenaculum, with no little force into the carious cavity ; it appears, at all events, the nerve here is now exposed, and writhing in pain we beg for a speedy release from our enemy ; with the tenaculum the gum is at the neck of the tooth detached, and a pad of lint is placed on its outer portion, covering the external alveolar process ; to this is applied the bolster of the cork-screw instrument—bolster probably in derision—and the next moment the claw is by a forefinger pressed down to the alveolus of the corresponding side. What occurs during the next second will for ever baffle our description ; suffice it to say we have passed through it in a mixture of astonishment and agony ; we rejoice, however, to find our tooth has left its socket, and is lying horizontally across it, from which position it is detached by one pair of the said forceps. It is fortunate we are told, that we had lost the said tooth, as it has a fungus at the root, witnessed in a small red projection on one of its fangs, but how the parasite got there, is some mystery to us. We are invited to wash out our mouth, a warm, luscious, spirituous fluid, being provided for the purpose. Then the gum must be closed, which is accomplished by a forcible compression of the vacant alveolus by the finger and thumb, accompanied by a painfully crackling sensation, and finally, lest we should take cold, a piece of cotton or lint, saturated with tincture of myrrh, is thrust into the alveolus with injunctions to be removed at bed-time. Having learned by the morning's experience the truth of the old proverb, that a stitch in time saves nine, we return

after a stated interval for the object of preventing a like catastrophe. The corresponding tooth—say a lower first molar—is found to have a small hole on the masticating surface, a broach speedily, though not very pleasantly, opens up a cavity in the dentine, whilst a few sharp strokes of an excavator remove the softened contents; as the mouth is being rinsed with water, the operator rolls up in his fingers one of the leaves of gold, which attached by pressure to the extremity of a plugger is carried to the cavity, now full of saliva, and we become conscious from time to time of the exact weight of the operator upon our lower jaw, which he supports with his left hand; then follows a little filing and rubbing, and in very little more than the time I have taken to describe it, we have had a tooth filled with gold, but which nevertheless often lasts us a lifetime. But we have yet another tooth requiring attention, it used to ache, but has not ached for some time, still there is a disagreeable taste arising from it, it is soon scraped out, a perfectly painless process, as is also that of filling it, which is in this case accomplished by the mixing of some of the mineral succedaneum in the palm of the hand, with excess of quicksilver, into a soft paste, in which condition it is conveyed to the cavity of the tooth, the forefinger of the right hand being the instrument chiefly employed. Instructions are given to us not to bite upon it for that day. But we have also to complain of a collection of foreign material upon our teeth, especially the front ones of the lower jaw at their backs, this is we are informed a calcareous matter, vulgarly termed tartar, caused by the action of the carbon that is exhaled from the lungs. For its removal the scaling instruments are called into requisition, their hook-like extremities being pressed under the mass at the necks of the teeth, which is forcibly broken off by a pulling upwards of the instruments. The teeth are left very rough, but this will go off in a day or two, when the tongue becomes accustomed to it. As our intimacy and confidence ripen, we venture on putting a few questions on matters that interest us. What is the nature of the decay we venture to enquire, is it really the result and action of a worm or worms as we have been told? Certainly not, that is an error; it is a subject he has studied deeply, and he is convinced that he has discovered the true cause of Dental caries; it is an untrodden path, but one the truth of which he is assured of, both from his own observations and the wonderfully successful results of a practice founded upon it. A tooth he informs us that has received a smart blow becomes first blue, then brown, and finally nearly black. He has opened such a tooth, and found the blackness to consist of a snuff-like substance, a co-mixture of blood and bone, the blood being extravasated in the exterior vascular membrane situated immediately under the cortex-stratus or enamel, a silicious covering to the tooth. The same thing is witnessed in the softer parts, when by a blow or pinch blood is extravasated under the skin or a finger nail—so does lateral pressure of the teeth upon one another produce the like bruising with extravasation, which is seen in the

dark spots between teeth, especially the incisors and bicuspid—*if neglected*, this by further exudation increases, until finally it bursts, leaving caverns like the blackened craters of extinguished volcanoes. Now by early attention, he has found that he can by a particular instrument he has devised, cut out the extravasated portion, and by preventing the future lateral pressure, save the teeth thus affected. Again, where the front teeth bite too hard upon their fellows of the opposite jaw, as is the case where the molars have been lost, and from such cause are likely to produce the extravasation, he removes a certain amount of their opposing surfaces. Delighted with so reasonable and probable an explanation of the cause for the decay of teeth, we venture to ask if our consultant is acquainted with certain practitioners of his speciality whose name we severally mention. He knows that there are such persons professing to practise Dental Surgery, but reveals to us the startling fact that he regrets to have to say they are one and all most incompetent practitioners. With gratitude we discharge our obligations, which we find bears its ratio to the value of the material employed rather than to the labour or skill of the operator, and we take our leave rejoicing in our good fortune to have sought the aid of the one truly intelligent and skilful dental practitioner. Matters pass on pleasantly till supper time—people generally supped, not dined late in those days—when our succedaneum-filled tooth, our delight of the morning excites our anxiety, it was unnecessary to ask us not to bite upon it, although we cannot close the mouth without doing so; it seems longer than it was, and positively a little loose, we retire to rest, fall asleep, most probably dream we are where we were in the morning, and awake to the knowledge of a frightful continuous pressing pain, varied only by aggravation at each pulsation of the heart. What a night! we try every remedy hot and cold, nay we even try with a penknife to get out the succedaneum, now as hard as adamant, which does not improve matters, and, finally, towards morning sink exhausted into a feverish repose. From our sleep we wake in less pain truly, but then what a figure we present, one eye nearly closed and ecchymosed, and the cheek of that side frightfully distended. We hurry off, though with less confidence than yesterday, to our friend. He meets us with an uneasy manner, but assuming more assurance declares we have taken cold in it; that we must foment patiently till a gum-boil forms, then we shall have relief; desperate, we consult another practitioner, and inspection follows; where did we go to? To be sure, the mystery is at once solved—always the case. Well, can we not have it out? we urgently plead. No, it is too much inflamed for that, we must apply leeches and anodynes, and when the inflammation has subsided he will take it out for us. The gum-boil does form, the inflammation does subside, the pain departs; but we do not have the tooth out, which remains with little trouble for a year or two, when it breaks away, the filling falls out, but the wreck remains. If in

attempting to afford a graphic sketch of the general state of our profession in the period from half to a century ago, I have trespassed too much on its ridiculous aspects, I must apologise to my hearers; but it occurred to me that there was no better way of showing (1) the paucity and imperfection of the operations carried out—not their skilfulness, for that, according to the means and appliances at hand, was quite equal to anything in the present day; (2) the absence of scientific knowledge, especially pathology, in the treatment; and (3) the professional status of the practitioner, as evinced in his attire, and his dispensing, in both of which, however, there was nothing degrading, as there certainly was in his ill-speaking of his fellow-practitioners—which in the individual is the strongest evidence of his possessing, or in the body generally of its possessing, a very low professional status. But if, at the period we speak of, the professional acquirements of the Dental practitioner were very limited, and his professional status not high, how could this be well otherwise when his educational opportunities were so restricted. As a pupil or apprentice the bulk of his instruction was in the workroom, and here it must be confessed it was most complete; for, if industrious, at the end of his pupilage his work in either gold or ivory would often bear comparison with that of the best mechanical assistant; but his instructions in the operation of filling were generally confined to the few gratuitous patients his instructor could find time to attend to, and what he learned in the operating or workroom he was taught to regard as a breach of trust to divulge. The out-patients' room of a general hospital, under the supervision of a House-Surgeon, was the field in which he acquired, from much practice, the art of removing a tooth entire from its alveolus, fitly to be described as a place of groaning and wailing and smashing of teeth. In regard to special literature, his reading was confined to a few standard works, which, though excellent for their day, dealt only for the most part in generalities, and gave but little information in regard to technicalities.

We will now attempt to consider the principal events and circumstances that have contributed so greatly to alter for the better the Dental profession, although at this period of day it is difficult to assign to each their relative value, and to say how much each contributed to the end. Amongst the first may be named, though perhaps not generally recognised as influencing the body for good, the Dental dépôts—most valuable institutions—which had gradually come to succeed the surgical-instrument-makers' Dental department, combined with the same branch of the gold refiners' business, including besides much that was of value to the practitioner. Here were to be seen side by side the inventive efforts of distinguished and ingenious practitioners, which, though often carried out under promises of strict secrecy, became patent to the workmen who migrating from establishment to establishment revealed their secrets to their new em-

players. Not only by these agencies did more perfect instruments, appliances, and materials, become known to the body at large, but in like manner did the name and reputation of those to whom they were due, and this not unfrequently led to the first little courtesies, terminating in acquaintance and friendship. At the time we are speaking of, the friendship of a practitioner generally meant the friendship of his pupils as well, who, with *amour propre*, invariably stuck to their clan, and thus it was little cliques were formed, which, though they might excite the jealousy and ridicule of those not privileged to enter them, or of opposing cliques, nevertheless, by comparing the mutual experiences of their members, rendered great service in those then dark ages of our existence. The early but somewhat abortive attempts to institute a current literature may be regarded as the period of the commencement of true internal reform, and the issue of the *Forceps* no doubt at the time gave a due and salutary impetus. It is interesting now to look over its pages, as they give us a good insight into the condition of the profession at that day; but the time was not ripe; secrets were then too precious to divulge, and professional jealousies too strong to allow the laying bare of mind before mind. A later effort, under the title of the *British Journal of Dental Science* was more successful, for during the decade between this and its predecessor an immense advance had been made, and no doubt its lasting success was much influenced by its appearing at a most opportune and eventful period. At first the production and property of a very talented individual, the periodical soon came into the hands of a number of leading practitioners, who felt such an organ would be most valuable for the extension of views, and the advocacy of measures, they believed most essential for the welfare and progress of the profession, as some have recently done with like object in the case of our Association Journal. The *British Journal of Dental Science*, representing the political opinions of one section of the profession only, the *Quarterly Review of Dental Science* was started, to represent those of another; and thus from purely political motives, the profession have become possessed of two periodicals, vying with each other in supplying the information most acceptable and valuable to the profession at large. But I am passing on too rapidly, and overlooking most important events, that directly or indirectly have greatly contributed to raise and extend the scientific aspects of Dental Surgery. The Americans had already established their Dental Hospitals; if it be true, and it probably is, that the general groundwork of medical knowledge was but very imperfectly imparted at these, there could be no doubt but that the instruction in the special branch was excellent, and as the communication between the old and new World was yearly becoming more convenient and more rapid, these were from time to time visited by our countrymen, both as students and sight-seers, with the greatest advantage to both. The Americans had also their societies and their current literature, and it is only just to record that

the greatest advances in manipulative skill and ingenious appliances have emanated from that side of the Atlantic. But that which, perhaps, has of all things, given the greatest impetus to Dental Surgery in this country, has been the Odontological Society, by which such vast results, direct and indirect, have been achieved. It has been customary to say that this Society was the parent of the Dental Hospital, and later on, of the Dental Diploma of the College of Surgeons of England, but this statement is incorrect. I believe it stands thus. Certain gentlemen, and amongst them pre-eminently our esteemed President, feeling that however great the social value, how little was the practical value of the Membership of the Royal College of Surgeons, or other surgical diploma, to the Dental practitioner, had, for more than a decade prior to the period we have now arrived at, endeavoured to obtain at the hands of the English College, a course of study and examination comparable to what they had instituted for the Obstetrician. At a later date, a number of not less earnest individuals united together to endeavour to attain a similar end, by the institution of a course of study, to be followed by an examination for a diploma, to be granted by a College instituted amongst themselves, and hence resulted the College of Dentists, which combined educational functions with the objects of a scientific society. The value of the latter as a scientific society was manifest, and I think I am right in stating that if the College of Dentists did not suggest the Odontological Society, it at all events precipitated its birth at the hands of those chiefly who had the College of Surgeons' Diploma in view. It was a great period in the history of our profession, when : 1. The Dental Diploma movement ; 2. The College of Dentists ; 3. The Odontological Society ; and 4. The Dental Hospitals, were being advocated and founded. We at this period of time can hardly estimate how much we owe to those who unselfishly devoted themselves, with unsurpassed energy, to the furthering of these objects ; at the time, as is always the case, the opposing parties were perhaps little inclined to allow to each other that credit for sincerity of purpose and motive, which we, looking back from this period, and when the heartburnings they gave rise to have ceased, can so fully accord. There were enthusiasts, no doubt, and there were martyrs also ; enthusiasts in those who at times, for a supposed good cause, might go beyond what would have been their better judgment at others ; and martyrs in those who, for a supposed good end, sacrificed their health almost to the laying down of life. But the result has been the establishment of institutions we now all deeply appreciate and benefit by, for by them are daily made known, not only the most recent discoveries, for the safe and surer treatment of our patients, but the most suitable and certain methods for carrying them into effect ; and it is those only who can fully appreciate this, who carried on their practices when there was no current literature, no societies, no Dental Hospitals, no Dental Diplomas, each of which, again, have helped and

stimulated each other to further excellence. In the Societies, at first, there was undoubtedly some reticence in laying open the secrets that had been cherished up, perhaps for many years, but which generally turned out, to the surprise of the informant, to be things generally known, and in a short time, the veterans setting the good example, the societies became the great markets for interchange of knowledge, and the bazaars for the exposition of every new appliance, whilst the Hospitals, worked by the most eminent practitioners—men in large practice, who sacrificed their time for the public weal—became the medium for testing, exhibiting, and recording the merits of any new suggestion, material, or appliance, which the literature or the Societies brought to light. It was thus we became acquainted, not only with the merits of adhesive gold, but also with the most appropriate ways of working it; restoring with the metal in this condition to its original form and dimensions, what we had heretofore regarded as the hopeless ruin of a Dental structure. In like manner did we become acquainted with the better and surer means of destroying a Dental pulp, with the salutary filling up of the chambers vacated by its removal. The later and more conservative methods of attempting to preserve this organ, and in which an antiseptic treatment forms so essential a part, were thus made known to us, as were likewise the treatment of cases in which the pulp existed as a mass of putrid material, infecting with disease adjacent structures, which up to such period had baffled all our efforts, except the unwelcomed one of eradication of the organ. And when this *dernier resort* was necessary, where could better be seen or tried, new, and more perfect instruments to that end, than at our Societies or Hospitals? Only consider for one moment the question of nitrous oxide as an anæsthetic. Can you believe that an agent so safe, or so suitable for Dental operations, could have remained so obscurely hidden for some nineteen years after its merits had been witnessed, had our literature, our Societies, or our Hospitals, at that time been in existence? To such institutions was its second birth essentially due. From the welfare of the patient, let us turn our attention to the comfort and relief of the practitioner. How has he not benefited in regard to operating chairs, which not only waft his patients with ease and comfort into almost every conceivable position, but permit him to carry out his most laborious and fatiguing operations as readily in the sitting as in the standing posture? In like manner, by the use of the mallet is the conservation of force effected, the laws of momentum coming to his aid, to the extent of saving him tons weight of force daily; the ever troublesome saliva, saturating the napkin, and maliciously creeping into a cavity, marring that which would otherwise have been a successful termination to a tedious operation, has, it has been shown him, found its master in the rubber dam, which not only effectually keeps it at bay, but gives him both his hands at liberty for manipulation; whilst, by the aid of saliva ejectors, a means

of occupying the attention of and amusing the patient, that fluid is quietly drafted off as it is secreted, to an adjacent sink, to the great comfort of both patient and practitioner. In like manner, in the Dental engine what labour are we not saved? Consider how imperfect, before its introduction, were our attempts to open up those insidious little fissures in the enamel communicating with a carious cavity, which when left untreated soon proved a source of further mischief; or remember what were, without it, our efforts to dislodge an old amalgam filling that had, perchance, become imperfect, or was loose in a cavity approximating upon another tooth: its value in constructing retaining points; its rapidity in finishing off a filling. These are but a few of the aids which have rendered our art more certain, and our efforts less wearisome, made known to us by the agencies we have dwelt upon, and we might almost imagine that Dental Surgery was on the road to becoming, one of the exact sciences. Unfortunately, these and other efforts have been more than counteracted in the greater failing of the organs to whose well-being these energies are devoted, and for the future, I can only foresee a desperate struggle for the mastery, a struggle I could only have regarded as utterly hopeless some half a century ago. But it is the progress of Dental Surgery, not Dental caries, I am called upon to notice, and that the duly educated and diplomaed, will be found worthy warriors in the contest, I have little doubt, especially now the great work of consummation of both has been effected, to consider which, briefly, must conclude my duties of this afternoon.

Although by its literature, its societies, its special hospitals, and its diplomas, so much had been done to advance Dental Surgery in this kingdom, the good results were ever being neutralised by the fact that there was nothing to prevent the illiterate, and absolutely ignorant, from cropping up side by side of the intelligent and accomplished, and boldly assuming the office and functions of the latter. In matters of special qualification the public are ever bad discriminators; we see how they are misled by the most specious advertisements; they read them, desire them to be true, and then act upon them as if they were so. If they have the time they have neither the inclination nor the aptitude for a prior investigation of them. When they have suffered the penalty of having sought professional aid for an unremunerative remuneration, then their censure falls upon the body at large, whom they unjustly condemn wholesale; yet when steps are taken to protect them by legislative enactments, these are often regarded as attempts to obtain a monopoly or oppress the weak. No legislation will they ever allow that shall prevent them from being victimised, the utmost they will tolerate is to permit their so being with their eyes open.

The evil we have dwelt upon was fully apparent to those who advocated and established the Dental diploma even in its earliest stages, but they

wisely felt it would be impolitic to attempt to make its possession compulsory at that period both of professional advancement and public opinion. that it must remain for some years merely a voluntary proceeding, they saw was inevitable, hoping that so soon as its value had been fully tested, the public mind would be ripe to allow that being made compulsory which had only been permissive. For all changes, whether of custom or public opinion, a preparatory step is essential, and when that is accomplished, it often requires but a very small incident to effect them, and when the attempt was made, the public were found only too willing to accept the wishes of the profession. A change, too, has come over the public mind, which, as recently pointed out by Matthew Arnold, has rendered it very different from what it was some twenty to thirty years ago; then everything was to be carried out by private philanthropy and private enterprise; Governments were not to interfere, especially in matters that related to education, professional institutions, &c. At such a period the attempt to obtain legislative enactments to restrict the unduly qualified from practice would have had but a small chance of success. In the profession itself, certainly amongst all who viewed the Dental Diploma with anything like favour, there was but one opinion, viz., that so long as it remained only an optional matter, its value to the holder was insignificant compared with what it would be, did it ensure a special right to practice. I am most willing to accord every credit to the Editor of the *British Journal of Dental Science* for the consistency and perseverance with which he uttered the exclamation "compulsory education and registration," but I doubt if there were a fraction of his readers who entertained any other opinion. I have said that when the public mind is ripe for a change, a small matter only often forms the turning point, but I did not intend thereby to imply that the meeting in Manchester, presided over by the Editor of the *British Journal of Dental Science*, was a small or unimportant event; still many such meetings, or more influential ones might have been held ten or fifteen years ago without any such results, and because the public mind was unprepared for the changes it contemplated. To enter upon the various difficulties that the promoters of the Dentists Act had to encounter, or the differences of opinion that cropped up during the progress of the work, are questions of present history, and as such can never be dealt with fairly; it requires at least a quarter of a century to enable us to view any important incident with justice or impartiality, and whilst we may now be able with unbiased opinions to speak of what was done for the good of the profession some twenty or thirty years ago, it must be left to the historian of a quarter of a century to come to describe what we are doing this day — whether for the weal or whether for the woe of the profession. If I may forecast a little, I venture to predict this much, that however the Dental Diploma or the education

qualifying for it may be modified, no future historian will be able to relate that the Dental Surgeon of his day is otherwise than thoroughly instructed in and examined upon the subjects most closely connected with his daily work, or that a British public are unprotected from the assertions and assumptions of the ignorant and impostor, and finally, let us hope, he may be able to tell that the advances from this present date may be chiefly traced to the wise counsels and prudent actions of a body called the British Dental Association.

The Tomes and Turner Testimonials.

THE PRESENTATION OF TESTIMONIALS.

A MEETING of subscribers to the above, and of Members of the British Dental Association, was held at 40, Leicester Square, on Monday, 26th ult., for the purpose of presenting testimonials to Mr. John Tomes, and Mr. James Smith Turner, in recognition of their services to the profession as President and Secretary of the Dental Reform Committee. The chair was taken by Mr. Thomas A. Rogers, in the absence of Mr. Henry J. Barrett. There was a very large attendance, and letters expressing regret at their inability to attend had been received from Messrs. Hepburne (Edinburgh); Merryweather (Sheffield); Abel (Harrowgate); Levason (Hereford); Waite (Liverpool); Ashby (Scarboro); Huet (Manchester); R. White (Norwich); and Henry (Hastings).

THE CHAIRMAN: In the unavoidable absence of our Chairman, Mr. Barrett, the pleasant duty devolves upon me of presiding at this meeting of the subscribers to the Testimonials to be presented to our dear old friend, Mr. Tomes, and—if he will allow me so to speak of him—his excellent and able first lieutenant, Mr. Turner. If affection and gratitude could give eloquence, there would be no more eloquent person in this room than I; but conscious as I always am of my want of the excellency of speech, I never felt so conscious of my need as now, when I would gladly be most eloquent. I feel I am surrounded by friends; and I am sure your hearts will convert into worthy realities the poor suggestions of my infertile imagination. But, indeed, if I were silent, the very walls around us would cry aloud. For what is this place wherein we are assembled? It is the home of the Odontological Society; it is the Lecture Theatre of the Dental Hospital; and it has, this day, become the head-quarters of the British Dental Association. To whom do these organisations chiefly owe their existence? To whose patient, unwearying, far-seeing labours are we mainly indebted for these institutions? which, taking them, as we fairly may, as representatives of their class, may be said to form, as it were, a firm tripod, whence may emanate oracles, guiding successive generations of Dental Surgeons to the attainment of the knowledge of the principles of their

profession, of skill in its practice, of honour and security in its maintenance and pursuit. To whom chiefly do we owe these societies? which are rapidly transforming our profession from a little more than a mechanical calling, whose standard of excellence had a constant tendency to deteriorate, into one requiring for its proper and intelligent pursuit the constant exercise of the highest faculties, mental—I may also say moral—as well as mechanical. To whom are these results mainly due? I need not answer this question here. The reply is ready in every heart and on every lip.

Mr. Tomes and Mr. Turner: In the name of the subscribers, many in number, and living in all parts of the world, I have the great pleasure of presenting to you these material evidences of our regard and gratitude for the great services you have rendered to our profession.

To you, Mr. Tomes, we beg to offer this “counterfeit presentment” of yourself, the work of an artist rapidly rising in his profession. By your own wish you are represented in the midst of old and prized family possessions, which add to its value in your eyes, and will, doubtless, lend additional interest to it in the eyes of your successors. We wish that pictorial power had reached so great perfection as to represent you also surrounded by the affection which has prompted this expression of our regard for you; but we are happy to believe that in your family circle some such graceful imagination will always invest the picture with a more than realistic charm. If, indeed, any may object that in it you appear to wear a somewhat too anxious and careworn expression, we, at least, will remember that the care and anxiety, only too faithfully depicted, have been in reality felt for the welfare of ourselves and our calling. We all most earnestly hope that very many years will elapse before this picture shall cease to be in your own possession; and that in your beautiful country home and in your well-earned repose, you will speedily regain the health which the self-denying labour of more than thirty years have alas! so much impaired. And as the thoughts of the lovers of natural history frequently turn to the quiet home of Gilbert White, at Selborne; so many a loving thought will henceforth wing its way from those engaged in the active pursuits of our profession to the graceful and refined home at Caterham and its revered inmates; thoughts always full of the warmest regard, and of the most grateful recognition. To you, Mr. Turner, we beg to offer this clock, the inscription on which will bear witness to your unselfish devotion to the cause of Dental Reform, and to the high opinions entertained by your brethren of the great services you have rendered to your profession; and with it a cheque for 350 guineas. We are too well aware that those services have entailed much sacrifice of valuable time, and still greater sacrifices of invaluable health. But in all probability you have a long career yet before you, a career full of promise of the attainment of the highest professional rewards and honours. We most sincerely hope your health

will be speedily and thoroughly re-established, and we feel sure you will always continue to use your influence for the furtherance of the cause we have so much at heart—the advancement of the profession of Dental Surgery. As an old practitioner, I will venture to predict that however great the reputation you may attain to in the estimation of the world, no pleasure will equal that which you derive from the respect and esteem of your professional brethren; and the ceremony we are at this moment celebrating proves how completely and how justly you have won their regard. The hours typified on the dial of your time-piece will indeed rapidly pass away, but the words inscribed beneath it by a grateful profession will ever remain unchanged, and will, we feel sure, ever continue to be a source of just pride and gratification to you and your family.

MR. TOMES, who on rising to respond, was most enthusiastically received, said he should not be able to find words adequate to express his grateful sense of the strong expression of their regard and esteem for what he might call his professional conduct through a long series of years, longer even than his old and valued friend Mr. Rogers had mentioned. Referring to his entering the Dental Profession, he said it was perhaps the fact of his doing so, by what he should now call a sort of side door beginning practice without knowing very much of the details of that practice, which led him to recognise very strongly, the absolute necessity of special training. Without underrating in the smallest degree the need of surgical skill or knowledge, he saw that a practitioner who would practise pleasantly to himself, with profit to his profession, and with advantage to his patients, must not only know the requisite amount of surgery, but must also begin practice with the requisite amount of manipulative skill. From that day to this, he had worked in favour of special education, and it had been from first to last a source of great gratification that the progress should have been steady and certain. When the Medical Bill was in the House of Commons, he was partly instrumental in the provision of a clause, whereby the College of Surgeons was empowered to institute examinations in Dental Surgery, believing as he did that, sooner or later that clause would be the first step on the ladder which would lead to what they now had, a Dental Act, converting that which was permissive legislation in the first instance, into compulsory in the end. The steps taken from the time the College of Surgeons instituted its examination in Dental Surgery, were familiar to them all, but he could not refrain from congratulating the profession on the existence of the Dental Act, which he maintained against all odds, was an Act conceived in a liberal and fair spirit, an Act which attempted to deprive no man of his established rights, whether those rights consisted in mere practice or in using certain titles and names. That this was the feeling of the profession generally, was sufficiently instanced by the fact that 1,150 dental practitioners signed a petition in favour of the Bill, out of 1,900 to whom the opportunity was

offered. He mentioned this because it was just the one point that had been called in question by those who said the title of Dental Surgeon should have been limited to members of the College of Surgeons. The attempt would have been a great injustice, and one which no House of Commons would have sanctioned. It was said also, that the Profession had been injured, because people were entitled to use designations which they did not previously possess. Really, it was nothing of the kind. The Bill did not entitle a man to use any designation that he could not use before, but it limited him so far, that he could not use the special designations which the Bill recognised, unless he possessed them. The outcry with respect to this particular question had been very loud, he might say almost hysterical. Strong expressions had come from an Association which, did they not know otherwise, might be fancied almost to be an Association of timid ladies, so violent had been their outcry of fancied injury and dreaded hurt. He hoped, however, that after a while when it is again recognised that persons are judged on their individual merits without reference to the attainments of those whom the accident of a similar calling may place in the same register or next house, it would be seen that the only thing had been done, that under the existing circumstances could be done, and that the Bill was conceived and carried through in a fair and liberal spirit. After paying a high compliment to the admirable services rendered by Mr. Turner, and warmly thanking the chairman and committee, he said the mark of approval they had given to his own conduct was a great source of gratification, inasmuch as it was a testimony of their approval at a time in his life when much was past and little remained, when he had to look back upon actions past, rather than to look forward to those that were to come. He accepted it with great pleasure and gratification, and the more so because he did not think he was likely to lose their esteem. It would be very hard if in the little time that remained, he should part with the good opinion that had come to him after so many years of professional life, a life in which he hoped he had injured none, but had as a practitioner acted in a manner creditable to himself, and advantageous to his younger brethren. If he had so far succeeded then he had but discharged a duty he owed to a profession he had pursued with pleasure, and the practice of which had placed him in circumstances sufficiently easy to render the later years of life free from the obligation of toil.

Mr. J. S. TURNER, who was enthusiastically received, said he wished he was a bishop, for bishops had the reputation of being able out of their white sleeves to shake speeches and sermons as they wanted them. Looking forward to this meeting for the last month or two, he had tried to make a speech, but it was like the boy's dog, the more he called it, the more it would not come. They could, therefore, well understand how difficult and almost impossible it was for him to express the feeling

with which he received this expression of their appreciation of his labours during the last few years. Those who had been associated with him knew that those labours had not been of a trifling nature; they were commenced and continued with one object, namely, the advancement of their profession in one particular way, and in carrying them through, he had the pleasure of acting under a chief such as was rarely met with. The Business Committee had also rendered most excellent service, consisting, as it did, of men who thought it no task to come from the uttermost ends of the island to serve the cause in which they were engaged. Thinking of the way in which he was indebted to his friends, he had sometimes felt, when this testimonial was first spoken of, that he was almost a kind of impostor, taking their good will under false pretences. At other times, perhaps when the weather was better, he felt that he had some little title to it, but now, whether from the electrical state of the atmosphere, or whether from the consciousness that his first thought was the correct one, he could not tell, but somehow or other he felt half ashamed of himself. He felt that although a great deal of work had been done, there was yet an immensity of work to do, and he looked forward with something like agitation as to how it was to be done. He very much feared he could not go on in the way he had been doing, and was only sorry that he could not look forward to something like a certainty, or an assurance of having permanent assistance in carrying on the business of the Association. Its work could not be done as it ought to be done unless their numbers were doubled, and until that was the case, he feared that, whatever their efforts might be, their success would not be commensurate with them. For their kind gift to himself he thanked them most heartily. It would be handed down in his family as an heirloom, and would be an incentive to those who came after him to work, not for themselves, but for the profession to which they belonged.

Mr. SAUNDERS, speaking on behalf of the Testimonial Committee, said their work had been indeed a labour of love. The Committee was a representative one, embracing men of all shades of opinion, and its members always attended in full force, and gave their best attention to the business before them. It was only right to state that the initiative was given by their Chairman, Mr. Thomas Rogers. They all felt that such a thing must be done, but the great thing was to seize the proper moment. Mr. Rogers gave the initiative, and was very happy in his choice of a chairman, and also of a secretary, selecting one, of whose admirable qualities in that capacity they had experience in the Dental Hospital. With respect to Mr. Turner, he wished to bear testimony to the marvellous character of the work he had performed. He was a trinity of secretaries in one, and seemed to have the art of omitting nothing, always being ready to place his finger on whatever was required. As for their friend Mr. Tomes, he could only compare him to

Count von Moltke, who, in the Franco-German war, from his little cabin directed that campaign to a successful issue, though even he could have done nothing without the Red Prince to carry out his instructions. Just so in their campaign, they had their veteran marshal with ample power to execute whatever he conceived, sitting in his house at Caterham and cogitating upon all that was necessary to bring out a successful result; and there was his henchman ready to carry out his behests. He hoped that both would live for many years to enjoy the testimonials they had received. In conclusion, he begged to propose a vote of thanks to their Chairman, for so gracefully presiding on that occasion.

The resolution was carried by acclamation.

The CHAIRMAN briefly responded, and proposed a vote of thanks to the Treasurer and Secretary of the Testimonial Committee.

Mr. SAUNDERS and Mr. HILL having briefly responded, the proceedings came to an end.

THE DINNER.

The members of the British Dental Association dined together at St. James's Restaurant, under the presidency of Mr. Thos. Underwood. There were about 80 present.

On the removal of the cloth,

The CHAIRMAN gave the usual loyal toasts, which were duly honoured.

Mr. SEWILL, in proposing "The Odontological Society," said it was a toast which in every meeting of the British Dental Association, must always be received with enthusiasm. It was to the Odontological Society that the British Dental Association owed its existence, and he might go further and say the Dental profession owed its recognition to that Society. It was the Odontological Society which united the profession into an harmonious whole, and made its existence known to the world. It had proved the fact that there was a Dental Science which was studied and practised by an important body of men. The Odontological Society based its claims upon the work that it had done, and it was a work which would be creditable to any learned Society. A study of its transactions would show that a great part of the progress which had been made in the science of their special department, had been accomplished through its members, and nothing could have more conduced to the advance of their profession than the work it had carried out. Its standard of professional conduct had been of the highest, and in the extremely rare cases in which men could not conduct their profession according to the right lines of professional conduct, they very soon found the atmosphere of the Odontological Society impossible to exist in. They could not select a man who better typified what one would wish all members of the Odontological Society to be, than did the most prominent member of that Society at the present moment, namely, its Chairman, Mr. Woodhouse, and he begged to couple his name with the toast. He would ask them to drink at the same time, "Success to the Odonto-Chirurgical Society of

Scotland," a society which had been following in the footsteps of its elder sister in the south.

Mr. WOODHOUSE, in responding, said he had the honour of being connected with the Odontological Society from its birth. He was not present at the first meeting at Mr. Saunders', but he knew it from its babyhood in George Street, from its youth in Soho Square, and had been connected with it in its manhood in Leicester Square. He believed the Society had been of the greatest possible service to the profession, and he never attended one of its meetings without picking up some wrinkle. To say that they had attained perfection was a certain proof that they were going back. Those who were always striving to learn were likely to progress and reach nearer to perfection, and those who regularly attended the meetings of the Odontological Society would, he was sure, approach nearer to that perfection than those who did not belong to the Society. Its meetings were characterised by a nice brotherly feeling, and had been the first means of uniting Dentists as a body, and the effect of that concentration of power was seen in what had taken place that day. They had seen the Dental Reform Association developed into the British Dental Association, and its first meeting had been a very great success. Altogether this had been a red letter day in the history of the profession; but if it had not been for the Odontological Society to aggregate and concentrate their powers, it could never have taken place. He hoped the Society would progress and deserve still more the thanks of the profession at large.

Mr. OAKLEY COLES in proposing the toast of the Dental Hospitals said, those Institutions had already attained an extremely high position. Unlike other special institutions, they were not the offspring of personal influence, nor had they been promoted simply by the interest and enterprise of their founders, but they were essentially the expression of the feeling of the whole profession. A large portion of the pecuniary support of the Dental Hospitals had been supplied by the profession. But beyond the mere money contribution, a number of distinguished gentlemen held posts on the staff as medical officers, and the lowest possible estimate of the value of those services since the establishment of the two hospitals was no less than £57,600; that fact had not hitherto been sufficiently recognised. It must be borne in mind that the position of Dental Surgeons at Dental Hospitals was not identical with the position of medical officers at general hospitals. The former had no students around them who were likely in future years to form the nucleus of a large consulting practice; Dental practice up to the present time had not assumed that characteristic. Then, again, Dentists had not been able to choose the time for hospital practice after the hours of home consultation had ceased, but they had given up two or three of the best hours of the day in order to place on a permanent basis the educational capabilities of their profession. In the presence of

the gentlemen whose names were connected with this toast, it would be impossible to say all that they deserved in praise of their devotion and self-sacrifice, but the result of their labours spoke more eloquently than any words of his could do ; and the students who, for the last 20 years had passed out of their hospitals fully equipped for the warfare of professional life, were a lasting monument and a perpetual reminder of the obligation of the entire profession, and of the services of Mr. Saunders and of Mr. Rymer, in connection with the two Dental Hospitals of London.

Mr. SAUNDERS in responding to the toast, said it was unnecessary in such a company as that to offer any excuse for the existence of a special Dental Hospital. They had long satisfied themselves that Dental Surgery as practised at the present day could only be taught in a special Hospital. He urged the claims of the British Dental Association, upon the profession, especially on the ground that its object was to engender a feeling of brotherhood and sympathy throughout every grade of the profession : they had no sinister views, no selfish aims, but in forming the Association they were working for one common good. He could not sit down without referring to the great central figure of that day, namely, Mr. Tomes, indeed they might call that the Festival of St. Tomes. The more they thought of him, and of what he had done for the profession, the more they found that he was bound up in every good work connected with it, and especial reference might be made to the removal of the Hospital to Leicester Square, as to which Mr. Tomes turned the scale when it really quivered in the balance, as to whether they should venture upon the undertaking or no. The work was now completed, and they might look with satisfaction upon a Hospital that was accessible to all the world.

Mr. RYMER having also responded:—

Mr. A. HILL said he was not insensible of the honour conferred upon him by committing to his hands the toast of the evening, "The British Dental Association." He was at a loss to know why it was not entrusted to another and abler man, but perhaps it was that he had been intimately associated with the work of reform in their profession from the commencement of the movement twenty-four years ago, or from his not having had a seat on the late Dental Reform Committee, or in the Council of the Association itself ; as a close watcher of events he had been considered able to take an impartial view from the outside of its operations. From whatever cause he had been selected to speak upon this subject he begged to lay before them, as briefly as may be, some of the reasons why he considered this toast commended itself to their hearty reception. In the first place then he would remind them that in the British Dental Association they have the principle of representation fully adopted. In the spirit of its laws as well as its

practical dealings, it seeks to be the clear and consistent representative, not of a clique or class, but of the great bulk of the profession; and this, to his mind, is what it ought really to be. Moreover, it offers a defined bond of union to all respectable practitioners. In the excellent speech of Mr. Waite at the meeting for the formation of this Association, that gentleman alluded to the chaotic condition of our profession in 1875, but that was as nothing compared to its condition nineteen years before, when his friend, Mr. Rymer, who had just spoken, with others, and himself, first came into contact with its discordant elements. The work of organisation and consolidation since then has been marked and progressive, and now there is not a respectable practitioner from John o'Groats to the Land's End, but may look through the distance of the intervening provinces to this Association, and find in it for himself a focal centre for his best interests, and feel the bond which unites him to his fellows. Whoever, therefore, appreciates this fact, must feel that he has not simply a professional home in the Association, but in it also a tower of strength for his protection. Another reason why the British Dental Association should engage our serious attention is that it undertakes to see that the provisions of the Dentists Act shall be carried out fully and faithfully, and thus, in this sense also, become the real guardian of the truest interests of the profession. In thus alluding to what the Association proposes to do, they cannot help thinking of those who are or have been connected with the work of Dental reform. Without invidious distinctions, he may remind them that they have their honoured chief, John Tomes, and Edwin Saunders, and although Providence has removed from their midst Arnold Rogers, yet the spirit of the father lives in his son, Thomas Arnold Rogers; and they have, too, the Hepburns, and a score of others, all good men and true; and with such as they to guide their future destinies, they may all feel confident and content. Let pride, pedantry, and arrogance stand aloof, and enfold themselves in the garments of their unsullied purity, if they will, but if he understood the purpose of this Association aright, it intends to come down into the arena, and do business, and battle with ignorance, and, directly or indirectly, put its own strong right arm underneath the uneducated man, and lift him up into respectability and worth. Furthermore, when the British Dental Association is strengthened as it deserves to be, by an increase in the number of its Members, it will be able to speak with authority on all matters pertaining to the profession,

and this at times when, for instance, important appointments are about to be made, or other circumstances of deep and general interest are the subjects of consideration. They need such an Association then, and it becomes the duty of every reputable practitioner to see that his name is enrolled upon the list of its members, that when the occasion shall arise, its voice shall not only be distinctly heard, but be respected too. In his opinion the Association demands a tribute of praise for the rapidity with which it has been formed, and the very marked success which up to the present has signalised the organization. Nor should they forget the wisdom that has been evinced in its incorporation, securing thereby a strong and stable position for their professional principles, and the relief of limitation of liability when law proceedings may unhappily arise. The British Dental Association is not a legal society, but it will represent all legal cases to the proper quarters; and, in conclusion he may add, that, whenever legal proceedings may become necessary, those who may be called upon to prefer the charges, should be careful to see that they are clearly defined and capable of proof. These, then, are some of the salient points in connection with the toast, and he commended it to their cordial acceptance, coupling with it the name of their worthy and esteemed Chairman, Vice-President of the British Dental Association, Thomas Underwood.

The CHAIRMAN, in responding to the toast, said there was one thing he would earnestly impress upon them, and that was this, that the work had but commenced that day. They had heard a great deal about the British Dental Association; its fate was in their hands, and upon them it devolved whether it should grow up to be a thing of mark, or whether it should die. He was considerably mistaken in his brethren if the British Dental Association did not become one of the leading associations of the Medical and Surgical professions. It now fell to his duty to bring before them the toast of the President of the Association. It had been his lot to have been associated with Mr. Tomes for a great number of years, in working for the welfare, as far as they were able, of their common profession. He happened to be selected by the College of Dentists, of which he was an original member, as its representative, at a time when there was a hope that accord might come between the two contesting parties. He met Mr. Tomes, and from the first half-hour of their conversation, Mr. Tomes and he were at one. The objects of the two societies were not antagonistic, they both tended in the same direction, namely, to elevate their common calling—they put their shoulders to the wheel, and from that hour to this, there had not been any subject that was at all a matter of professional interest, in which Mr. Tomes and he had not

had something like a finger in the pie. What Mr. Tomes had done for the profession was patent to them all, and if they would one and all act as he had done, they need have no fear of the future of their profession. To-day, though a red letter day in the history of their profession, would be but the commencement of future greatness. He called upon them to drink bumpers to the health of their President.

The toast was enthusiastically responded to, and was acknowledged by Mr. C. S. Tomes.

The toast of Sir John Lubbock having been proposed,

Mr. HUTCHINSON, in proposing "The Medical Council," said the British Dental Association was incorporated with the intention of carrying out the meaning of the Dental Act, but that Act could never have been carried into effect—Parliament would never have passed that Bill had it not been for the ægis that was cast over it by the Medical Council. He therefore asked them to join in cordially thanking the Medical Council for the hard and earnest labour they had expended upon the Dental business.

Mr. KYAN gave *The Dental Review*, associated with the names of Mr. Coleman and Dr. Walker.

Dr. WALKER in responding, said he regarded the British Dental Association as a family. Mr. Tomes being the grandfather, Mr. Turner the father, with himself as head-nurse, but if there was to be any success in the future for the Journal, it must rest with the children. They had now 367 subscribers, and if that number was only doubled, he could guarantee them a good journal for the next twelve months. He hoped that during the next fortnight, Mr. Turner would be thoroughly occupied in receiving the names of 300 fresh subscribers.

Mr. MOON then proposed the "Branch Associations," acknowledged by Mr. Campion.

Major STEWART gave the "Dental Schools," responded to by Mr. Francis Underwood; and Mr. Mummery proposed the health of the Chairman.

The final toast was the health of the Treasurer and Secretary of the British Dental Association, proposed by Mr. Weiss, and responded to by Mr. J. S. Turner.

The company then separated.

Western Counties Dental Association.

THE Second Annual General Meeting of this Association was held at York House Hotel, Bath, on the 2nd instant, Mr. C. Spencer Bate, F.R.S., in the chair. The following gentlemen were present:—F. H. Balkwill, R. Brown, T. V. Coker, E. L. Dudley, S. B. Fox, Charles Gaine, John Hay, Charles A. Hayman, G. Hooper, Wm.

Hilyar, W. A. Hunt, J. T. Browne-Mason, Henry B. Mason, Henry Mallet, W. V. Moore, George T. Parkinson, James Parkinson (London), J. Cook Parson, Wm. Pearce, G. A. Pearman, L. Reed (London), Richard Rogers, Alfred Smith, J. Smith Turner (London), A. B. Verrier, Joseph Walker (London), David Watson, and F. Youngman.

The CHAIRMAN (Mr. Spence Bate), in opening the proceedings congratulated the Members at meeting once again, and under such favourable circumstances. He proposed that the Editors of the *Dental Review* be desired to publish the report of the proceedings of the present meeting of the Association. This was carried.

The honorary Secretary (Mr. W. V. Moore), then read the Report of the Council, which was as follows :—

The Council has to report, that, since the Annual Meeting of the Association at Exeter, on August 4th 1879, it has met twice, once at Torquay, at Christmas, and again at Plymouth, on Easter Monday. The primary duty of the Council has been to examine the state of the Dentists' Register, more especially as it relates to the four Western Counties. The result of this investigation shows, that in Cornwall, Devon, Somerset, and Dorset, there are registered 237 Dentists, including three or four pupils, not yet out of their articles. The analysis of this gross number is seen in the following table :—

Practicing with an L.D.S. Diploma	..	..	38
„ „ the M.R.C.S. „ „	..	..	6
Without a qualification	..	..	92
„ „ but with display	..	..	8
„ „ as Druggists	..	..	3
Druggists who only Extract Teeth	..	..	90
			<hr/> 237
Without Registration	..	..	2
			<hr/>
Total number practising in the four Counties	..		239

The Council has been endeavouring to obtain information as to the extent that the system of advertising has been carried on in these counties. It has found that two itinerant Dentists from a distance, are in the habit of advertising to a large extent, and that six or seven others also pursue the same offensive practice. Among these is one who is registered as possessing a Licentiate's Diploma, and one has expressed his intention of not acting so again. It has

also been informed that some who are Members of this Association are in the habit of circulating professional cards through tradesmen, and especially druggists, a circumstance that is very reprehensible, and much to be regretted: inasmuch as it precludes the Association from influencing others if the actions of its Members are not pure. The Council, therefore, trusts to the honour of every Member, to abide by the Bye-laws of the Association, in their true spirit. Of the Chemists and Druggists on the Register, it is the opinion of the Council that the majority have so registered under the impression that, had they not done so, they could not continue to Extract Teeth as they had hitherto done; whereas the registration is intended to protect the right of using the title Dentist or Surgeon-Dentist, or that indicating the possession of a legal qualification. Most of the Chemists who are registered as Dentists, never did, and probably never intended to adopt the designation of Dentist, nor to practice as such. Nearly a hundred of these have since withdrawn from the Register. The Council thinks it the duty of this Association, that each Druggist who is not in *bonâ fide* practice of Dentistry, should be informed of the illegality of his position. Three flagrant cases of the assumption of the title of Dentist appear in the Register. Two who are keepers of retail beer shops have been struck off the Register. The third case is that of a young man under age, doubly registered; First as having been in practice prior to July, 1878, and again as a pupil exempt from preliminary examination, registered on the 1st of December, 1878; whereas he only commenced his studies on the 17th of December, in the same year, that is five months after his having been registered, as being *bonâ fide* in practice as a Dentist. Two persons continue to practice without being registered, but without advertisement, or any display, as far as is known to the Council. Of six who are registered as being in practice with Medicine and Surgery, there appear to be three that have done so without being in any way connected with the practice of Dentistry.

In carrying out the object of the Dental registration, any attempt at removing those who have been placed on the Register by error or false representation, will require legal advice, and, perhaps, considerable pecuniary outlay. It is, therefore, the opinion of the Council, that the Western Counties' Dental Association should be amalgamated with the British Dental Association as a branch of the same. It will, therefore, only remain for this Asso-

ciation to report from time to time to the Central body the state of the Register, as far as it affects this division of the kingdom.

The TREASURER reports that after paying all expenses through the past year, there is a balance in hand of £6 1s. Forms are now printed, by which Members may be proposed, and it is very desirable that the strength of the Association should be increased by adding to its numbers all Dentists on the Register who practice according to its rules. In taking into consideration the next place the Association should visit, the Council are prepared to recommend Bristol, as the place of meeting for the year 1881. From the fact that one-fourth of those on the Dentists' Register, in the four Western Counties, reside in Bristol, together with its central position and railway communication, point that Bristol should be early visited by this Association.

According to the Bye-Laws, three Members retire from the Council, and the Council recommends that those gentlemen who, whilst residing nearest to the places of meeting, have attended the least number of times, should retire, and that they be eligible for re-election. The Council also suggests that Mr. Gain, of Bath, Mr. Hunt, jun., of Yeovil, and Mr. Magor, of Penzance, shall be elected; and that Bristol and Plymouth, or Exeter, be the places where the Council should meet during this and the ensuing year, for the casual business of the Association.

The TREASURER (Mr. T. Browne-Mason), presented his report, which showed that the receipts from annual subscriptions amounted to £26 5s., and the expenses, &c., £20 4s., leaving a balance in the Treasurer's hands, of £6 1s.

The CHAIRMAN announced that during the past year, the Association had lost three members—one by death, and two having retired,—and that six new members had already been elected that day.

Mr. SPENCE BATE then vacated the chair in favour of the President elect—Mr. George T. Parkinson.

Mr. SPENCE BATE proposed—

“That the Western Counties Dental Association become a branch of the British Dental Association.” He thought that two delegates, and the President as an honorary delegate, could be sent to the Central Association; that the two delegates selected should be gentlemen willing to serve, and willing to attend; and that their appointment should be as nearly permanent as possible. In that way would their representatives become thoroughly

acquainted with the working of the parent association, and the knowledge thus gained would be of great service to their association, as a branch of the British Dental Association.

Mr. W. A. HUNT, seconding the motion, said he saw every reason in favour of the union, but not against it.

Mr. A. SMITH, referring to the terms of affiliation, thought them open to objection. The terms ought to be fair and just. Young men and assistants who were not flush with money, could not be expected to subscribe one guinea to the Central Association, and also half-a-guinea to their branch. It was also unfair to the present members to accept the terms of affiliation at that meeting.

Mr. HENRY MALLET supported the motion.

Mr. J. BROWNE-MASON suggested that the terms be the same as those of the Midland Counties Branch.

Mr. S. B. FOX, thought they should be members of both Associations, else it would be an element of weakness.

Mr. BALKWILL approved of being affiliated to Central the Society. County Dentists much wanted a Central Political head.

Mr. CHAS. GAINE suggested that they should adopt the method of The British Medical Association.

Mr. J. SMITH TURNER said that if the Western Counties Branch had had no existence previous to the registration of the British Dental Association, the proposed branch could only obtain admission according to the Articles of Association, that is, they would be members of the parent society first, and members of the branch afterwards. But as the Western Counties Association was in working order, previous to the British Dental Association, and had received members who might not now wish to join the central body, the terms of amalgamation must be left for the consideration of the Council of that Association; so far as the British Dental Association was concerned, it had no power to go beyond its articles of convocation and its bye-laws.

Mr. HAY thought it would be well to limit the subscription of local members to one guinea per annum.

Dr. WALKER suggested that the most advisable plan would be to take a vote as to the sense of the meeting, whether affiliation would prove acceptable. The necessary change in the bye-laws, and other considerations, could be referred to the Council, or left till next year.

Mr. JAMES PARKINSON pointed out the weakness of a provincial Association, unconnected with the Central Association in London,

and urged the formation of the Western Counties Association into a branch of the Metropolitan parent.

Mr. W. A. HUNT thought it might be well to remain in *statu quo* for another year, and then amalgamate with the parent on the lines of the British Medical Association.

Mr. SMITH spoke of the advantages which London men enjoyed by living where the Central Association always met, whereas men in the provinces were sometimes long distances from the metropolis.

Mr. J. SMITH-TURNER reminded them of the fact that the parent association would hold its meeting in a different town each year, therefore the question just raised would not exist.

Mr. PEARCE thought that affiliation would be objectionable, inasmuch as the Western Counties Association had existed for two years with half-a-guinea subscription for full membership. He could only compute that a subscription of a guinea-and-a-half would insure them the same privileges, therefore the value of the Journal would, in his opinion, be estimated at 21s., while the ordinary subscription to the Journal was only 7s.

Mr. SPENCE BATE having replied, the resolution was carried unanimously.

It was proposed by Mr. SPENCE BATE, seconded by Mr. A. SMITH, and carried, that the retiring President accept the office of Vice-President, until six retiring Presidents have been so appointed.

It was decided that the next Annual Meeting of the Association be held at Bristol.

The following is a list of officers of the Association for the ensuing year :—

President—Geo. T. Parkinson, *President-Elect for 1881*—Thos. Cook Parson, *Vice-President*—C. Spence Bate, F.R.S., *Treasurer*—T. Browne Mason, *Hon. Secretary*—W. V. Moore.

COUNCIL.

Council:—F. H. Balkwill, L.S.D.Eng. ; Rd. Brown, L.S.D.Eng. R. S. Coles, L.D.S.I. ; S. Bevan Fox, L.S.D.Eng. ; R. H. Geldard, L.D.S.Eng. ; Wm. Hunt, L.D.S.Eng. ; W. A. Hunt, L.R.C.P., &c., W. Helyar, L.D.S.I. ; C. A. Dayman, L.D.S.Eng. ; E. E. Jewers, L.D.S.Eng. ; H. A. King, L.D.S.I. ; C. N. King, L.D.S.I. ; Charles Gaine, M.R.C.S. ; H. B. Mason, L.D.S.Eng. ; M. Magor, L.D.S.Eng. ; G. H. Marriott, L.D.S.I. ; R. P. Morrison, L.D.S.I. ; G. T. Parkinson, L.D.S.Eng. ; G. W. Pearman, L.D.S.Eng. ; A. Smith, L.D.S.I. ;

W. R. Tuck, L.D.S.Eng. ; D. Watson, L.D.S.Eng. ; F. Youngman, L.D.S.Eng.

The meeting was then adjourned for luncheon, and at three o'clock the President delivered his address, which will appear in our next number :—

THE DINNER.

The Dinner took place in the evening at half-past six o'clock. The President (Mr. G. T. Parkinson), took the chair, being supported by Dr. Falconer, Dr. Spender, Dr. Walker (London), Mr. R. S. Fowler, and Mr. F. Mason. Mr. C. Spence Bate occupied the vice-chair, and with one or two exceptions, the whole of the gentlemen who attended the annual meeting were present. After dinner,

The CHAIRMAN gave "The Queen and Royal Family," the toast being duly honoured.

Dr. J. WALKER (London), said, as a visitor, he felt it a very great honour to be called upon to propose the toast of "The President" at the second anniversary of the Association, and to find such a president at the head of the table. In 1770 the name of Parkinson was known in Racquet Court as one of the first Dental Surgeons of that day. Three generations had followed, and he thought the President was a member of the third generation, a family which had so successfully practised in England, as Dental Surgeons, during that period. The association that met together that day was, he might now say, a branch of the parent association, and it was with peculiar interest that he should be able to take back to their president, John Tomes, the information that, with willing assent, they had accorded him his desire that the Western Branch should be a branch of the London and parent society. They knew that that branch was first called into existence prior to the Association in London, and they might say that the Western Counties Association had led the way as pioneer ; but the society in London had now become a legalised association, and, therefore, perhaps they might take priority in that sense, although those present were pioneers in forming an Association of Dental Surgeons in the West of England. John Tomes's health was not what it had been ; he certainly felt the extreme fatigue attendant on the formation of the British Dental Association, and carrying forward the Dental Bill. Dr. Walker understood the branches would support the parent society in helping to carry out the new Dental Bill. The first and principal work of the

branches would be, to assist the parent society in London in seeing that the whole of the clauses of the Bill were consistently carried out ; the second motive in forming the branches would be to form a bond of union amongst practitioners in all the Western counties, and that brotherly feeling might be extended in daily work and life. If that association led up to those two points, he was quite certain the branch in the West of England would have done a great and glorious work.

The toast was received with musical honours.

The CHAIRMAN, in responding, said he was most grateful for the honour they had conferred upon him in placing him in the position of President, and for the cordial way in which they had received the toast of his health. Anything he could do during his year of office, or at any time, for the promotion of the interests of the society, he should be pleased to do with the assistance of his friend the vice-chairman.

Mr. JAMES PARKINSON (London), proposed : "The Western Counties Dental Association and its officers," associating with the toast the name of Mr. Browne-Mason, the Treasurer. He had very great pleasure in connecting his name with the toast, remembering his hospitality at last year's meeting. As a responsible officer of the parent society, he remarked, a great deal was expected from them. They did not wish to shirk the duties imposed upon them, still they must give them the means of doing what they asked of them ; he therefore was very pleased to hear the intention expressed that afternoon of joining the British Dental Association. As a local institution they brought together a great amount of good fellowship, but if they wanted to act politically it was on the Central Association they must depend. To enable that to be done they must contribute, and that was really one of the reasons why he wished success to the Western Counties Association.

Mr. J. T. BROWNE-MASON returned thanks on behalf of himself and his colleague, Mr. Moore. He was sure the Members of the Branch would prove truly loyal to the principles they all had at heart. It had been his aim from the first to bring about the junction of the Western Counties and the Central Association. He did not think their having become identified with that would in any way mar the pleasantness of their annual reunions, and he considered it a great credit to so young a society that they had had such a number of papers. He hoped that they would go on as

they had done, and that as Treasurer he should be always in the happy position of having a surplus at his back.

Mr. HUNT (Yeovil) proposed "The British Dental Association." He did not think they could do better than follow in the lines of the British Medical Association, which had been so successful. They must remember that the Central Association had now become by Act of Parliament an enrolled company, and prepared therefore to deal legally with all questions that came before them. There were many expenses connected with such a position, and it was their duty as Members of the Western Counties Association to back them up not only with their goodwill but with their guineas. They must remember that Dentists were emerging from a slough of confusion, ignorance and incompetency, but they were now better off than the Members of the Medical profession were prior to 1815, for they had now a legalised diploma and the licentiate-ship of the various colleges. It had been the fashion to decry these diplomas, but he happened to be a Member of the College of Surgeons, and he did not hesitate to say that the diploma was superior altogether to that of the College of Surgeons. It took one year more to obtain, many more subjects had to be studied, and there was a practical examination in the subjects required. He thought, therefore, it was not to be looked down upon, and their duty as a Dental Association was to clear off a good many of the clouds of ignorance that hung around them, impeded their progress, and stopped them in so many directions. He advocated a broader and more liberal education in the future. He coupled with the toast the names of the Hon. Treasurer and the Hon. Secretary.

Mr. JAMES PARKINSON briefly replied, and

Mr. J. SMITH TURNER (Lond.) also responded. If that Association wanted to justify their own existence, they must support the central Association, which had not been idle in the interests of the profession at large. They had had a considerable amount of work to do since, about sixteen months ago, the British Dental Association was inaugurated. They had managed to get together about 380 Members, and that of itself was an achievement. The Dentists Act had been carefully watched on their behalf. Certain memorials had been presented to Parliament, and to the General Medical Council, having in view the destruction of one of the best features of the Dentists Act—the right of the licentiate in Dental Surgery to use the title "Surgeon Dentist," or "Dental Surgeon."

The Central Association had to present counter memorials, and if there had not been a Dental Association, and vigilant men on it, these memorials might have been presented without anybody knowing of the fact. Then again, they had endeavoured to grasp the question of the expurgation of the register with as much delicacy as possible. They had managed to send in a list of 400 names to the Medical Council, which they considered were improperly placed on it. The proceedings of the Council had been carefully attended, and things that were likely to be detrimental to their Act, and the interest of the profession, had been met by fair, and honest, and open means, but so effectual as to place the Dentists Act in a better position than ever. The Medical Council had behaved well to the Dentists, and well to the Dentists Act, and they had every reason for hope that they would still further act in the matter, and erase from the Dental Register the names he had mentioned. He asked the support of the profession to the British Dental Association, and he wished them not to suppose, because many of its Members resided in London, that it was a London association. It would hold its meetings, like the British Medical Association, in various parts of the country, and would be a means still further of uniting their Association.

The CHAIRMAN proposed "The Medical Profession," and coupled with the toast the name of Dr. Falconer.

Dr. FALCONER, in responding, said it was not a little flattering that the British Dental Association was following in the lines of the British Medical Association, which was now in the 50th year of its existence. It had gone through a great many troubles and difficulties, but had at last ridden into a haven of safety. He trusted if similar difficulties arose in the Dental Association, they would take the Medical Association as pilots, and avoid the rocks upon which it at one time foundered. Any association, in any way connected with the medical profession, that strove to raise itself, would always have the support of the Medical Association. It brought them nearer, and the nearer they came, the more the Medical Association would appreciate them in what they did. That led him to another point, which was to express his highest appreciation of the Members of the Association who were present, and on behalf of the profession he represented there that evening, he begged to thank them most sincerely for their reception of the toast.

Mr. C. GAINÉ (Bath), proposed: "The authors of papers," to whom he did not think they could be too deeply indebted.

Mr. BALKWILL (Plymouth), and Mr. MOORE replied.

Mr. C. SPENCE BATE proposed: "The Visitors," coupling with the toast the name of Mr. F. Mason. The toast was received with musical honours.

Mr. MASON, in replying, observed that the previous day was an anniversary of very great importance to himself, for he then commenced his thirty-fourth year of practice. He was pleased and gratified that the Dentists had affiliated themselves to the College of Surgeons, and that they had obtained a diploma, and elevated themselves above the ranks of those who formerly practised Dentistry.

Mr. C. SPENCE BATE proposed; "The health of John Tomes," who had for years been the leading spirit to whom every Dentist had looked for the promotion of his profession to that of a rank among men.

Mr. J. SMITH TURNER responded.

Mr. J. PARKINSON proposed "The Vice-President," remarking that to Mr. Spence Bate the success of the Western Counties' Association was mainly due. He associated with the toast also the names of the officers of the Association.

Mr. SPENCE BATE responded. He hoped that after next year's Bristol meeting the Association would pay a visit to Plymouth. He referred to an incident which led to his writing to Mr. Browne-Mason, and the subsequent initiation of the Western Counties Dental Association, which they considered the original one. In London they were trying to copy them in every way they could. They had already, however, been in existence two years, and in the course of another year would have their first meeting, while the Western Counties Association would then be three years old.

This concluded the proceedings.

Royal College of Surgeons of England.

QUESTIONS AT DENTAL EXAMINATION.

THE following questions were submitted to candidates for the diploma in Dental Surgery on the 19th February:—

ANATOMY AND PHYSIOLOGY.

1. By what forms of suture are the bones of the cranium united? Name these sutures, and describe each form.
2. Describe the circulation of the blood, and state by what forces it is circulated.

SURGERY AND PATHOLOGY.

1. Mention the different forms of ulcer which are met with in the mouth; and describe briefly the characters and treatment of each.
2. What are the symptoms of periostitis? State how it may be produced, and what treatment you would adopt in its different stages.

DENTAL ANATOMY AND PHYSIOLOGY.

1. Describe the specimens under the Microscope Nos. 1, 2, and 3.
2. What relation have the teeth to the function of speech? Describe the effects on articulate sounds occasioned by the loss of the several teeth respectively.
3. What are the anatomical and histological peculiarities of the teeth in marsupial animals?

DENTAL SURGERY AND PATHOLOGY.

1. In what manner would the dental surgeon employ the following substances? Arsenious acid, carbolic acid, chlorate of potass, chloride of zinc, permanganate of potass, nitrate of silver, and nitric acid.
2. Enumerate and describe the various forms of cystic disease connected with the teeth.
3. Enumerate and briefly describe the several affections of the nervous system that may arise from diseases of the teeth.

On the following day they had to undergo a practical examination in Dental Surgery, for which purpose about a dozen patients were in attendance. In addition to other practical work, each candidate had to make a gold filling, the cavity having been prepared on a previous occasion. On the 23rd and final examination, the candidates were orally examined by the whole board.

Royal College of Surgeons in Ireland.

QUESTIONS AT RECENT DENTAL EXAMINATIONS.

DENTAL ANATOMY AND PHYSIOLOGY.

1. What are the various glands which supply the buccal secretions, describe exactly their position?
2. Describe the microscopic and general characters of the enamel, dentine, and cement of a human tooth, and mention their probable uses.
3. Describe the Temporo-maxillary articulation, the bones and ligaments entering into its formation, and the muscles producing its movements.

DENTAL SURGERY AND PATHOLOGY.

1. Describe the condition of the teeth and gums in a case of advanced scorbutus, mention its most frequent causes and the principal modes of treatment.
2. What causes are apt to render the use of a suction piece difficult or impossible, and how are these to be overcome (when possible)?

3. Under what circumstances would it be justifiable to remove a sound tooth? What teeth would you give the preference to for removal, and why?

Annotations.

EXPURGATION OF THE "DENTISTS' REGISTER."

THE promptitude with which the Medical Council at its last sitting disposed of the dental business, indicates the great advantage of being able to deal with these questions by committee, and affords an argument for dealing in a similar way with a good deal of the medical business. Two hours sufficed for the satisfactory disposal of the dental questions on the business programme; several of which, however, at the suggestion of the legal adviser of the Council (Mr. Ouvry), were discussed with closed doors—the alleged ground for privacy being that the "opinions of counsel" (Mr. Fitzgerald and Mr. C. Bowen), did not in all respects accord. We have, as the result of the reading of the two opinions in private (carried by eleven against five, six not voting, and two being absent), a resolution to the effect: "That the opinion of counsel be taken as to whether the Council can delegate to the Executive Committee the initiative of the proceedings by the Dental Committee, under Section 15 of the Dentists' Act." The opinion of Mr. Fitzgerald, taken by the British Dental Association, and placed at the disposal of the Council, is to the effect that the power can be so delegated, in which opinion the statement of Mr. Ouvry would lead us to believe Mr. C. Bowen does not wholly concur.

The question at issue is merely one of more or less delay in the reference of cases of alleged incorrect registration to the Dental Committee, for the determination as to the facts of the respective cases; the decision of the Committee upon which is a necessary precedent of any conclusive discussion upon them on the part of the Council. Nothing has, however, transpired which justifies the suspicion that there is any difference in the opinions as to the erasure of the names of persons who have obtained registration by means of incorrect declaration, or which would excuse those persons from withdrawing their names who, without due consideration, assumed a false position by causing themselves to be entered in the *Dentists' Register*.

It is to be regretted that both Mr. Fitzgerald's and Mr. C. Bowen's opinions were not entered on the minutes, and all mystery avoided. This was felt by many members of the Council; but unwillingness to act at variance with the advice of their solicitor prevailed, and the doors were closed.

[Several communications have been received, but are unavoidably withheld for want of space.—ED. M.R.D.S.]

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION

No. VII.

SEPTEMBER, 1880.

VOL. I.

"The Advent."

THE advent of the "Dead Season" in London brought with it a Special General Meeting of the British Dental Association. The record of the 26th of July, contained in our previous number, must be eminently satisfactory to those who have watched the course of events, and also to those who have aided in pressing forward the good cause in which all are, or at least ought to be, profoundly interested. But, alike to the contented and discontented, the proceedings of that day must present many points of interest, and many subjects for deep, and perhaps painful reflection. It is not our purpose to enter upon such subjects at present, but we venture to hazard the opinion that those who have the greatest cause to be satisfied are in all probability those who feel the least satisfaction. The time to say "Rest and be thankful" will, of necessity, come in the life of each individual, but in public affairs such a time never comes. Yet even the directors of public business find it necessary to rest and take breathing time, and when the Representative Board of the British Dental Association rendered an account of their stewardship, the Members felt that a period of well-earned repose was at hand.

Since the Special General Meeting, events of considerable importance for the future of our profession have occurred, and by judicious arrangement, there has always been a sufficient contingent of the Board at hand to serve faithfully the interests which have been intrusted to them. The Board must now, however, be considered in recess, and if correspondents have to wait even longer than usual for answers to their letters, they must please remember that their representatives are amongst the dissatisfied ones, and are now only refreshing themselves, preparatory to another season of activity and exertion.

Amidst this preparation for fresh effort in the cause of professional progress, there is one body of gentlemen who may with extreme satisfaction look upon the termination of their labours. Those who had the good fortune to be present at the presentation of the Tomes and Turner Testimonial, witnessed the completion of a perfect work, in a manner which must have been peculiarly gratifying to those who undertook its management. Never were testimonials more worthily given, and all who listened to the truly eloquent address of Mr. T. A. Rogers, must have felt that never were testimonials more felicitously presented. This may seem high praise, but we are sure that whoever may read the address of the Chairman will join in this opinion, and that the subscribers will feel grateful for an exposition of their sentiments at once so simple and so true.

IN a recent article on Transplantation and Replantation we called attention to the well known fact, viz.: that a tooth's vitality is maintained by two sources, 1. the vascular and nervous supply to the pulp, and 2, the vascular and

nervous supply to the alveolo-dental membrane. Of the hard tissues the dentine, and, if we accept the views of Bödecker, the enamel, rely on the former solely and the cementum partially; the main supply of the last named being derived from the latter source. In the process of pivoting, fang filing, &c., it was shown that the supply to the dentine, and enamel (?) through the vessels and nerves of the pulp was completely cut off, nevertheless the cementum existed as a living structure—not, however, always in a perfectly healthy condition as evidenced in its hyperæsthetic state manifest when subjected either to mechanical irritation or changes of temperature. On the other hand, though more rarely, the cementum may have lost its vitality, whilst the remaining hard structures have not. A tooth may have a living pulp whilst one or even two of its fangs may be wholly detached from all living structures. An instructive case, bearing on this subject, came under our notice some few years ago; a lower third molar which had given considerable pain, and which was, on percussion, free from tenderness, and gave the clear ringing sound indicative of a healthy periodontum, presented on the masticating surface a small superficial decay which appeared the only, but not satisfactory, cause for the amount of pain endured. The cavity was ground out with the bur-engine, the dentine proving very sensitive, and the cavity filled with gutta-percha, as the least irritating material that could be employed; the pain continuing, the tooth was eventually removed. When split open the pulp was found perfectly healthy, being separated from the carious cavity by a considerable thickness of sound dentine, but on the anterior surface of the fang—a single one—was a patch of dead cementum occupying about $\frac{1}{3}$ of that surface. The tooth had been long and tedious in erupting.

In the operation of transplanting living teeth, we have stated that we can rarely hope for both sources of vitality being preserved; we rely upon securing that, only, of the cementum furnished by the vessels and nerves of the alveolo-dental membrane. That this membrane, or portions of it remaining upon the root of a tooth, may, under favourable conditions, become united to the same structure in the alveolus of another person is, we think, quite as probable as is the transference of living bone, periosteum or skin from one body to another; and, although we have never had the opportunity of removing a tooth so transplanted whilst continuing in a satisfactory condition, we have not the least doubt it would be otherwise than attended with the same resistance to our efforts, or afford the same amount of hæmorrhage as a tooth the pulp of which had been destroyed.

For some years attention has been devoted to the subject of transplantation, and several cases have been carried out both at St. Bartholomew's and the Dental Hospitals; we regret these cases have not been traced out so carefully as the importance and interest of the subject demand; the fault, however, lays more with the patients who have failed to present themselves as requested than with those who carried out the operations. In the St. Bartholomew's Hospital Reports for 1878, is a paper by a member of the staff upon this subject. After alluding to the experiments of Hunter, and discussing the reasons which led to the discontinuance of the operation, and of which, we think with the writer, "the moral" one was the most potent, attention is directed to the fact that many thousands of healthy teeth are, in the present day, removed for the relief of over-crowded jaws, and which might be turned to profitable account. Seven cases of transplantation are recorded as carried out under the hands of the writer, one

of which was a double case, that is, where two lateral incisors removed from a child of about twelve were transferred to a youth of sixteen. At the time the paper was written one case only was known to have failed. The first case recorded had been done about two years previously, and we learn this was recently seen and was quite satisfactory, making it a period of over four years duration.

The paper also records five additional cases carried out by another gentleman connected with St. Bartholomew's Hospital, of which, at the time of writing, four had proved successful.

Simpler and easier is the process of replantation, especially where the tooth to be replanted is one that has not suffered from disease and which can be returned to a healthy and uninjured alveolus, as in the case of a sound tooth accidentally extracted. The teeth in such cases often appear to continue as sound and serviceable as other teeth, but that few of such cases are recorded has an obvious explanation. In the cases where teeth removed by violence—falls, blows, &c.—have been returned to alveoli more or less injured, these have often become quite firm and serviceable for many years—ten, at least, to our own knowledge.

Teeth removed on account of caries, occurring in spots inaccessible for filling, especially if much affected by the disease, will have a smaller chance when replanted, filled, than sound teeth, as there will probably be more or less unhealthy dentine in contact with the cementum, and still smaller will be the prospect of success when the pulp has been for any time in a disorganised state.

The least favourable condition for replantation will be when the cementum has become affected, and is more or less necrosed, and yet it is probably in such cases that the operation would prove most valuable could it be generally

resorted to. The treatment of periodontitis, which although it may arise from rheumatism, syphilis, salivation, general stomatis, &c., is most frequently the result of unhealthy cementum consequent on carious dentine, has under the latter conditions proved the most intractable affection the Dental surgeon has had to contend with. When teeth in this condition are removed, their roots are generally seen divested of alveolo-dental membrane about their apices, the cementum of which is dead; approaching the neck of the tooth, the same membrane although attached to the cementum is unusually thickened and softened, and its fibrous structure infiltrated with lymph and white blood cells, whilst about the neck of the tooth, and where the structure assumes more the condition of mucous membrane, it is firmly adherent, and apparently healthy. In attempting to treat such cases by replantation, some practitioners, after the removal of the tooth, and necessary filling,—the fang cavities with antiseptic material,—proceed to scrape off the dead cementum, and much of the diseased membrane, carefully avoiding injury of the healthier portions at and about the neck of the tooth; the bare portions of the root or roots are immersed for a short time in an antiseptic fluid, and the tooth thus treated is returned to its alveolus. Other practitioners, we believe, simply content themselves in regard to the treatment of the fang or fangs, by cutting off a portion or the whole of the bared extremity. If the proportion of success in these cases be, in the long run, other than great, in must be borne in mind that it is attempted for a disease almost fatal to the welfare of the organ, and for which other attempted means of cure are lengthy, distressing, and probably equally uncertain; it is probable that experience, and improved methods of manipulation, may in time lead to a greater ratio of success.

We have yet to speak of the transplantation of dried teeth, or teeth obtained from the corpse, in which, of course, none of the alveolo-dental membrane exists, but we must reserve this for a future number.

Dental Education in Hungary.

By JOS. ARKÖVY, DR. OF MED. AND SURG. MASTER OF DENT.

IN Hungary, as well as in the politically and materially connected Austria, a special Dental education does not exist. Neither Hungary nor Austria possesses such a distinguished institution as, for example, the Dental Hospital of London, and the London School of Dental Surgery; one consequence of that is, that Dental Education is taken up in the course of the general Medical education, through which it has all right to rank with, and be as respected as, any other speciality.

There are in Hungary three Universities, which are Government Institutions—that is, they are high schools, which are inspected by Government authorities, conducted in the highest manner, and with the rights of administration of the interior affairs secured to the faculties. One of the oldest in Europe is the University of Budapest; those of Kolozsvár and of Zagreb have been founded but a few years. In Zagreb there is not, as yet, any Medical faculty. Budapest is the only University which at present possesses two chairs for Dentistry. The one confers the title of professor, the other of lecturer. This last office is now vacant. In former years, to meet the need felt for medical men in the country, a course of education existed for so-called licentiates in surgery; this provisorious system was abolished about nine years ago. The licentiates at that time were permitted to practise Dentistry, but since then only those who are doctors of medicine are admitted to the Dental examinations.

In giving the legitimate way of acquiring a diploma as Dentist, I will keep in mind the regulations respecting the education and examination of candidates in Great Britain.

The preliminary general education in Hungary, where education is compulsory, is obtained partly through four elementary classes, and partly through the eight classes of the gymnasiums. Pupils are received into the former when five or six years old, and into the latter from nine to ten years old. No age is named at which a pupil may go to the Universities. The student leaves the gymnasium when he has passed what is called the examination of maturity, which comprises all branches of learning. The testimonial gives him a right to enter the University. In order to spare the reader the particularizing of every necessary branch of education, I will only mention that a scholar in the fourth or fifth class is quite equal to one who can pass an English preliminary examination. The Student at the University, during five years, has to be present at all the Medical lectures, and to make practical exercises similar to the requirements of English licensing bodies, before he is admitted to the primary examination, and after an interval of several months he is admitted to the pass-examination. Four years ago a new system of examination was introduced, according to which the former two examinations were divided into severally oral, written, and practical divisions; and special branches, as Surgery, Midwifery, Ophthalmology, were included. Only after all these examinations does the candidate obtain the diploma of a Doctor Universæ Medicinæ.

The special lectures in Dentistry embrace to the fullest extent the Anatomy of the mouth—Embryology, Physiology, Pathology, Surgery, demonstrations on some models, and different subjects out of the Odontotechnic. The special examination is oral, and consists principally of questions relating to the teeth, mouth, and adjoining parts.

The University, as also the great town's Hospital, has no separate clinical departments for teeth and mouth diseases, and therefore the young Dentist is obliged to

acquire practical knowledge during the years before or after his studies in the technical and operating places of some celebrated Dentist. Still, this last method of acquiring practical knowledge in Dentistry was not required to secure a diploma, as the University had only to watch over the examinations of scientific knowledge. The only requisite necessary to pass an examination in Dentistry was to have attended during one session the lectures of the professor of Dentistry. *Now*, everybody may, or may not visit these, quite as the student pleases.

From what has been already said, it is evident that not only is there no pretension in Hungary towards a special school for Dentistry, but that any one who desires to follow this profession must get the practical knowledge, or rather necessary experience in some manner, apart from the University which only imparts scientific knowledge.

What has just been written upon a Dentist's education in Hungary can also be said of Austria.

In respect of practice, the same may be said of the whole monarchy of Austro-Hungary. But on the other hand, in Hungary, according to Government laws, no one may practice with a foreign diploma unless such practitioner receive special admission to practice by passing a proper examination before the medical faculty. The number of Dentists in Hungary is very small, for in the capital, with about 400,000 inhabitants, there are at present, only eleven. Here, as everywhere else, unqualified persons exist, and practise on the public. A few years ago there was a proposition moved by the medical faculty to the Minister of Public Education to set on foot a special School for Dentists, but, fortunately, nothing has yet been done. It would be more advantageous for the profession should this idea not be carried out, as it proposes to allow licentiates in Dentistry, *only*, to practise, persons not of necessity possessing scientific knowledge, which, for Hungary, could not be regarded as a step towards progression.

Every Doctor of Medicine who passed his examinations in the old system had the right either to go through the

examination for a Dental diploma, which gave him the title of Master of Dentistry, or he had also the full right to choose Dentistry for his special line without any Dental diploma; only on the basis of being an M.D. Since the new system of examination became general, the title of Doctor Universæ Medicinæ is considered to imply also Dentistry, as well as Otology, Laryngology, or any branches of Medicine and Surgery. In consequence of that new system all kinds of special diplomas ceased to exist.

Clinical Lecture.

Delivered at the National Dental Hospital, London.

By W. FINLEY THOMPSON, M.D., D.D.S.

(Concluded from page 336.)

Referring to Fig. 4, the difficulties to be surmounted are at once apparent, as the tendency of the rubber dam when forced beyond the gum is to seek the level of the festooned border. The means usually employed in similar cases is the adaptation of a clamp—reniform—to the tooth, the portion to be applied to the labial surface being aciform, while the other, to be placed on the lingual aspect, is bifurcated; it however cannot be considered free from objections, as it obstructs the light and impedes the hand in its action; as will be seen by reference to fig. 4 on following page.

The peculiar shape of the cavity, Fig., 4, nullifies any advantage this clamp may possess, for with the most careful adjustment it will only retain the rubber at one point, nor can any other clamp be selected presenting pre-eminent merit. When caries extends to a point beyond the margin of the gum, that portion of the clamp placed on the lingual aspect of the tooth not unfrequently is the cause of so much suffering, that the patient insists on the abandonment of the work. For this reason I have endeavoured to dispense with its use,

adopting a method which I shall now describe previous to clinical illustration.

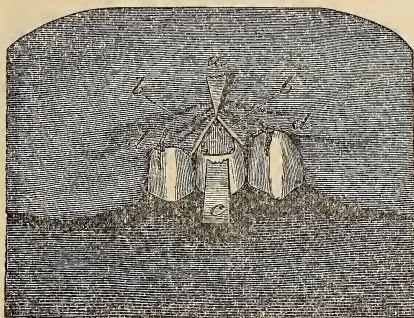


FIG. 4.

The above represents the rubber adjusted on a bicuspid with a clamp, broken, the upper part of which is thrown back to fully expose the morbid part being operated upon.

a, Aciform extremity of clamp laid back, but with its point in position on upper edge of the cavity and between the incised portion of the gum.

b b, Rubber, extending from point of clamp to the inter-dental spaces, showing reflected edges upon the cavity, with open segments on either side.

c, Arching portion of clamp, a continuation of the broken part of which would partly conceal the cavity and the point of the clamp.

d d, Ligatures.

It will be noticed, when adjusting the rubber, that its collar-like formation serves to steady it in position; but when forced beneath the festooned border of the gum on either side of the tooth, and at the same time depressed below that level on the other, the elasticity of the material continually inclines the collar to return to the horizontal equilibrium. Without a projecting point on which to retain the rubber, such a return would soon occur; but if a prominence, sufficiently abrupt, be established on the surface of the tooth, this progressive motion will be arrested (see Fig. 6). This can be effected by building the gold beyond the edges of the cavity until it forms a ridge following the sinuosity of the edge

of the cavity, upon which the rubber can rest. After dissecting away a portion of the gum—an interval being allowed for the cessation of hemorrhage—the dam is to be adjusted on three teeth; the tooth to be operated upon occupying the central position. The adjustment of the rubber on the adjacent teeth is preserved against derangement by the additional precaution of a silk ligature round each tooth. The next stage of the operation is now entered upon—as shown in Fig. 5—and consists of the withdrawal, by digital compression, of the dam from the proximity of the cavity. The tension of the rubber being considerable, extending to the orifices through which the proximate teeth are passed, results in the encroachment of the fluids of the mouth on the territory to be operated upon; and only by careful ligation, previously alluded to, can the retrocession of the rubber from the associate teeth be prevented.

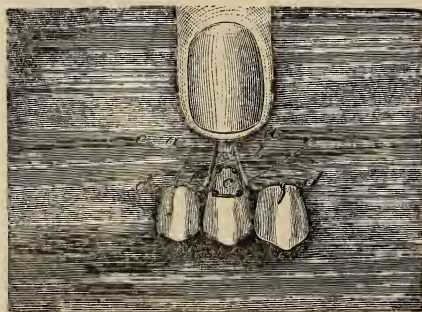


FIG. 5.

- a*, Showing point at which rubber is confined by digital compression.
- b*, Incised edge of gum.
- c*, The cavity.
- d d*, Ligatures upon the canine and second bicuspid.
- e e*, Edges of rubber.
- f*, Anchorages, five in number.

This diagram is intended to illustrate the preparatory steps and first stages of filling, previous to removing the

finger from the rubber, which is firmly held in position as so delineated. The superstructure is then commenced by building in the three anchorages which are made in that portion of the tooth hitherto overcast by the festooned border of the gum, carrying the gold up in a divergent line, extending crescentic shape until raised above the general level of the tooth. The length of this preliminary portion of filling should be sufficient to prevent the funicular formation—caused by the distended portion of rubber—from encroaching upon the mesial or distal edges of the cavity. The prominence, which we will designate a reef, is supported by additional gold until its position as an abutment is secured. During the period of the forcible retention of the rubber it is continually inclining to release itself, and on the withdrawal of the finger contracts upon the gold which is then worked over and upon it, as shown in diagram 6.

In the use of the clamp, as shown in Fig. 4, the preparation of the cavity differs in this respect, that instead of five retaining points, three only are necessary, each of these being located at the extremity of the angles. But in the figure before us (28), instead of one, three anchorages are required in the apex of the cavity, to assist in building the lunate arch which is to resist encroachment of the rubber upon territory absolutely necessary to be protected.

The advantages secured by this method are so important that I shall discuss them at full length. The generally diffused, but gentle pressure of the rubber in its tendency to return to its original shape is met by an equally uniform resistance; every point of the edge of the elastic material, when coming in proximity with the curved periphery of the cavity is met and contested by the gold reef established at the cervical border—the pressure being almost imperceptible in its contractility on the tooth and parts contiguous. The cornua of the golden crescent are so widely separated as to prevent the rubber trespassing again upon the edges of the vertical walls of the cavity.

Looking at the figure, it will be seen that from the distance to which the cavity extends below the general gingival border, any clamp which might be applied on the cervico-buccal aspect would inevitably cause pain by pressure on the lingual gum. In such an instance, it is compulsory to place the clamp in a vertically-oblique position, while its tendency to contract causes it to advance upon the lingual wall of the tooth, acting in an aggressive manner upon the gum, and resulting—as already stated—in discomfort to the patient, which increases the difficulties to be contended with.

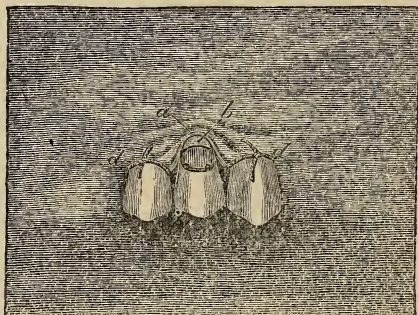


FIG. 6.

a Shows the rubber contracting upon the collar-like formation of gold *b*, which is built, crescentic shape, upon the cervical portion of the tooth; the outer portions indicating points to which the filling is to be built previous to relaxing pressure upon the rubber.

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But there being an entire absence of painful pressure in the method now described, it becomes possible, *cæteris paribus*, to combat the influences that otherwise might frustrate every measure put forth.

Before concluding my remarks upon the rubber, I may add that it should not be kept on hand in any great quantity, as it suffers a subtle deterioration by age, becomes rotten, and therefore valueless in cases where its use is most essential.

Experiments made on the india rubber of commerce prove its degenerating qualities, for when exposed to light it has been found to absorb oxygen; "five hundred grains of virgin caoutchouc, cut into the form of a tape," gained "14 grains in the course of nine months," "by absorption of oxygen; it became brown, soft and sticky." "It gave up 11.81 per cent. of an oxidized, soft and viscous resin to alcohol;"—which indicates that the rubber dam sheeting should be excluded from light and air as much as possible.

This last remark may be appropriately made in regard to most of the appliances of operative dentistry; as the condition of the instruments, the working qualities of gold, and the elasticity of the rubber, are each of them more or less affected by any unnecessary exposure to atmospheric changes.

Society of Licentiates of Dental Surgery.

PRESIDENT'S ADDRESS,

BY J. R. BROWNLIE, L.D.S.ENG.,

Delivered at the Inaugural Meeting held Sept. 1880.

GENTLEMEN,—If an example were wanted in support of the statement that it is “the unexpected which happens,” the history of our profession during the past two or three years would form a most striking one. I do not mean those changes affecting the profession as a whole, but just what has been done amongst ourselves—those changes in effecting which we have all taken a part, and which, but a very few years ago, were still to all appearance far in the future—something to look forward to as the probable features of another generation of Dentists, but which we could hardly expect to see existing in our day. And yet, in these few years we have witnessed a great revolution, a thorough reformation; the blotting out of a past condition from which we wished to escape, and the establishment of a new order of things—an order which cannot fail to be productive of much good.

So rapid has been the progress of events, one experiences a difficulty in realizing our present position. We are now met together, members of a Society, not merely of Dentists, but a Society that recognises only one title, one qualification for Membership—the Licence in Dental Surgery; and we are tempted to speak prospectively of that which we are already in possession of. Are we not all Licentiates in Dental Surgery? Is not our Society an accomplished fact? And are we not here to-night to enter upon the work of its second session?

The pressure of circumstances under which our Society entered upon existence, entailed a somewhat hasty and incomplete beginning, something having to be reserved for future consideration, while time failed for the discharge of other duties, which usually occupy a place early in the work of such an Association. Amongst other things, by your kind indulgence, I was thus permitted to postpone to

a more convenient season the customary President's inaugural address. So much of the past session having been devoted to purely elementary work, to the framing of a constitution, rules, bye-laws, and other necessary preparations, we are, as it were, but now entering upon our fully developed state of existence. No longer the mere grubs, we have now grown our wings, and are ready to flit about, revelling in the gains of a new found state of existence, and intent on carrying out the purposes of the Society of Licentiates in Dental Surgery.

I do not feel called upon to enter at any length upon the narrative of the events which have preceded and paved the way for such meetings as these in our midst. To do so would be but to enumerate events in which we have all taken an active part, and which are familiar to us as the recollections of personal experience. It will suffice briefly to glance back into the past at one or two of its more prominent features; and in going no further afield than our own immediate surroundings, in dealing only with what has been done amongst ourselves, leaving out of sight those events of wider signification and more extended influence, out of which our efforts to help ourselves have sprung, my intention is simply to be brief.

Towards the close of what I may be allowed to describe as our "previous state of existence," a feeling of dissatisfaction with things as they were, was, I would say, the prevailing sentiment. But while every man was doing as seemed right in his own eyes, such feelings could be productive of no desirable results. There was the wish for a better state of things, and this was something, but it needed those two great elements in our progress—the Dentists Act and the L.D.S. of the Faculty of Physicians and Surgeons—to point the way to those who were ready to act on behalf of the common good. In them we had the incitement to action, and also the security for *bondâ fide* effort in raising the *status* of our profession.

No sooner was the opportunity of acquiring a professional title placed within reach, and a position secured to

the Dentist by Act of Parliament, then the work of reformation was begun. The opportunity was promptly taken advantage of, and within a year of the date of its first examination, a large section of the members of the profession in Glasgow successfully went through the ordeal, and were admitted Licentiates in Dental Surgery of the Faculty of Physicians and Surgeons.

The beginning could hardly have been more modest. First there came those semi-private conferences, where two or three took counsel together, and which led up to the first occasion on which the Dentists of Glasgow met as a profession—a meeting where almost every member of it was present or was represented. A Committee to act on behalf of the profession was formed, and trusted to see to the educational facilities required by young men beginning their career. How well that Committee has discharged the trust reposed in it, let the existing institutions bear testimony. Three years ago our medical schools were ignoring quite the profession of the Dentist, now all three have made arrangements for teaching our art. Each of our two Hospitals has added a Dentist to its staff, whilst at Anderson's College the most complete and satisfactory arrangements have been made in accordance with the Dental Students' curriculum for instruction in Dentistry to dental as well as general medical students. And while to-day, as a direct result of these educational arrangements, we are inaugurating a society for those in practice, we must not omit to record the existence in our midst of a Dental Students' Society, with a roll of somewhere about twenty members. Within the past two or three years these changes have all taken place, the greater part within the last two, so that if we go back but a very little way further, we reach a time when the L.D.S. had but one representative in what was even then the second city in the empire, nay, indeed, in the whole west of Scotland; and now, in inaugurating the proceedings of a Society of Dentists whose doors are open only to Licentiates in Dental Surgery, we may well recall the work of these few

years—not as an occasion of boasting, but in testimony of the disposition with which we are animated in thus banding together for more of friendly and scientific intercourse, and in seeking by union to promote, as occasion may require, the interests of the profession of which we are members.

In taking up the decided position we occupy in respect of the Dental Licences, we must, I am sure, all regret that we have not with us to-day all those who have interested themselves in bringing about this improved state of existence. Reposing in the confidence of their patients and a place on the Dentists' Register, they seem disposed to repeat the mistake of those who, eligible for examination at the Royal College of Surgeons of England, allowed their opportunity to pass unimproved, and awoke at once to a sense of its importance, and how impossible it was for them to make good the error they had committed. Now as then each year will add to their difficulties, and, if I may be permitted a word of advice, I would say to all such that there is danger in delay.

But if in founding this Society upon the basis of the L.D.S., that qualification which every man entering the profession must obtain now engaging in practice, we are unable to have with us those who have differently estimated the importance of the position, we have in front of us a prospect unlimited in extent, and as free from obstacle or impedient as we could well desire; a continuous supply of new men from which to gain addition, another tribunal having sat in judgment upon each man's qualifications. All having to pass, or having already passed through the same ordeal, each man's title to join us proclaims his fitness for membership, and there is nothing we are entitled, as a Society, to require from each new Member, which has not already been obtained from him in becoming a L.D.S. I speak of course with special reference to the conditions under which the License of the Faculty of Physicians and Surgeons can only be obtained. Elsewhere less stringent regulations are in

force—that which is here obligatory, and a condition upon which the licence is granted, is there simply enjoined as a duty, and that we be not left dependent upon a man's sense of duty—we have the means of maintaining a professional standing in balloting for membership.

From such a beginning and so founded, we have formed our Society of Licentiates in Dental Surgery. That there was room for it is abundantly manifest, but yet the field was not altogether unoccupied. A Society which was intended to represent the profession in Scotland, has already existed for some dozen or more years past. In the early part of its career the Odonto-Chirurgical Society formed a "Tale of Two Cities," one half of its proceedings dating from Edinburgh, the other half from Glasgow. The idea seemed a happy one, and for a time a fair amount of success attended the scheme. That this Society no longer meets alternately in the two cities, is not—we are bound to acknowledge—the fault of its Edinburgh members, and the changes which were shortly introduced into its arrangements give a fair indication of the reason. After a time it was tried by reducing the number of the meetings in Glasgow, and adding to the number of those held in the capital, thus to maintain the connection.

This increased effort demanded of its Glasgow and West of Scotland Members was not beneficial, and when the average yearly attendance from Glasgow and the West fell off to something like one and a fraction, or thereabout, the Odonto-Chirurgical Society quietly settled down into its rest, and although it still retains its original designation, its tendencies have latterly shown a decided leaning towards the material comfort and temporal welfare of its "resident members."

You are for the most part aware that when the Society was first spoken of, my opinion and counsel was that we should rather seek to strengthen and develope the already existing one, and possibly revive its peripatetic character for the convenience of Members of both cities. The pro-

posal brought out questions which were somewhat hard to answer. It was asked why should we undertake to spend some four or five hours in a train, and have our deliberations cut short by the shriek of the railway engine, while we are strong enough numerically to have just such meetings at our own doors? When asked if I could from my own experience recommend the conjoint scheme as likely to succeed, I felt bound to say that a second attempt might not prove one whit more successful than the first. The new generation might not, probably would not take to the arrangement more kindly than the former one, and on due consideration I could not think that our newly developed professional zeal should be so heavily weighted. But if we have not gone a wooing—if we have not risked finding ourselves in the position of the rejected suitor—we have left the way open to the cultivation of friendly intercourse, and I can see no reason to prevent our becoming fast friends.

With so much community of feeling and interest, there are many ways in which the two societies might reciprocate, and should the matter appear in as favourable a light to the members of the Odonto-Chirurgical Society, I venture to promise on behalf of the Society of Licentates in Dental Surgery, that this matter will have our most favourable consideration.

There is another neighbour with whom we may seek for a more intimate connection. One which appeals more directly to our sympathies and claims our support. I mean of course, the British Dental Association, to which, without loss or diminution of identity we are invited to become affiliated. The propriety of taking such a step, will I trust, shortly be brought forward by the Council, for your consideration and decision. In the meantime I would but remark that much as has been accomplished on our own behalf amongst ourselves, for the special work of this Association we are comparatively helpless, while the support and influence to be derived from a large membership are absolutely necessary for the efficient carrying out of the work it has taken in hand.

I believe I am correct in saying that the primary idea in promoting this Society, was to provide an opportunity for more scientific and friendly intercourse amongst its Members. A glance at the syllabus shows that the expectations of its originators have had reasonable foundation, and the session gives promise of being a most profitable one. It will appear, however, that more than we have just named may fairly be effected from us. The assumption of such a title seems to convey the idea of a somewhat wider field of action, and that all that bears upon our common diploma and its interests, is deserving of the Society's attention. Apart and single-handed we could hardly hope to realise more than the former of these ideas, but should it be decided that we seek to become affiliated to the British Dental Association, we may thus at once attain to a position which shall make us quite equal to all that may be expected of us.

In thus speaking, I would not have it thought that in respect of our "professional" surroundings, we are in any worse case than other large centres of population. Possibly we are better situated than many, but while the need for still further improvement remains, we are but dealing prudently, in recognising its existence and looking around us for such remedy as may be deemed applicable.

I have not accepted this position, to which your partiality has promoted me, without some degree of misgiving. To a work of this kind I am unable to bring more than a very limited experience. There are two things to which I can lay claim—two things without which it would be in vain to hope for any measure of success—viz., the most hearty interest in the success of the work which this society has undertaken; and the highest appreciation of the honour that has been conferred in appointing me its first President.

Gentlemen, I must not further trespass on your time, there is every appearance of its being fully occupied, and it has even been suggested that we should have more frequent meetings than we have arranged for. This we

might overtake now, but we must think also of the future, and see to it, that whatever arrangements we may make now, will not in time press heavily on any one, but that our meetings will hold out always and to all of us the prospect of a most pleasant and profitable evening. In taking care that the work of preparation for these meetings is not allowed to become burdensome, that we do not make too frequent demands on our members for papers and subjects of discussion, may we hope to continue, with more in prospect to engage our attention, than we can find conveniently a time and place for.

It is only right 'ere sitting down, that on behalf of the society, I should express our indebtedness to the managers of Anderson's College. In some one capacity or another, the Dentists of Glasgow have been called upon of late to acknowledge how generously the support has been accorded them of the managers of this Institution.

All our wishes at the commencement and our subsequent demands, have been most favourably received and considered. And now it befits us as a Society of Licentiates in Dental Surgery to tender to them our thanks for making room for us also. Their favours have not been dealt out to us as a profession, by measure, and I feel assured that I but give expressions to the feelings of every member of this society in saying, that the arrangements entered into, in fostering and providing for the first attempt at a really professional existence will prove as beneficial to the interest of the Institution over which they kept watch, as it has been to the cause of Dental Progress in Glasgow and the West of Scotland.

Western Counties Dental Association.
PRESIDENT'S ADDRESS.

Delivered August, 1880.

GENTLEMEN,—Having done me the honour of electing me as your President, on this the first anniversary of the inauguration of the

Western Counties Dental Association, I beg to express to you the unfeigned pleasure that I feel in welcoming you to Bath.

At the same time, I cannot but be conscious of my inability to fill, in a manner so perfect as to secure my own satisfaction, or to call forth that approbation which you so deservedly accorded to my predecessor, with whose urbanity and kindness we were all so charmed, and whose opening address was so admirably adapted to the occasion that called us together. I hope you will believe, however, that I yield to no one in the earnest endeavour, which it is the duty of all to exercise, to contribute to the harmony and goodwill, or to enhance the benefits, that ought to result from the formation of our Association, based as it is on the desire to establish a bond of unity and brotherhood, which in other branches of our profession has borne such good fruits of permanent friendship, and has excited the mutual endeavour of all its members to contribute to the information, and to enhance the reputation, of all who are connected with it.

Independent of other considerations of a more personal character, by the formation of societies such as this, a special guarantee is afforded to the public, that the curriculum of study required on the part of its Members, and insisted upon by the Royal College of Surgeons, has been fully carried out, and that they may be safely guarded against the malpractices of unscrupulous advertising adventurers, by simply ascertaining whether those to whom they are about to entrust themselves and their families are in possession of the qualifications and skill requisite to ensure their confidence, and are worthy of their support.

In every department of medicine and surgery, unhappily, there is to be found a class of men ready to practise upon the credulity of the public by false representations of skill they do not possess, and who have no qualification whatever, on which to base their pretensions. It is high time that some effectual blow should be given to their machinations, and societies of this description are admirably adapted to effect it, aided as they are by a recent Act of Parliament on the subject. Most heartily do I echo the sentiments in our late President's address, as regard the ethics which ought to actuate us, and the philanthropic and sympathetic feelings we should exhibit towards the poor, who stand in need of our services, and feel sure that all of us would be influenced by that generosity and liberality which has been one of the proudest characteristics of the medical profession. It was well said by the

late Dr. Gregory—than whom perhaps no more brilliant ornament of the medical profession ever existed—that medical men in general possessed greater philanthropy than most other men, but made much less display of it; they were, in fact, the good Samaritans of this world. May not then, I would ask (without arrogating to ourselves greater praise than is our due), the same be said of the auxilliary science of which we are the exponents, and in the faithful discharge of which our boast and ambition is to benefit our fellow-men in the province to which we belong, to the most beneficent extent in our power?

If the art and science of medicine and surgery have contributed in their sphere to mitigate the pangs of human suffering, we on our part, as members of a sister science, have not been backward in contributing to the relief of some of the most acute suffering to which human flesh is heir. If there exists a spirit of emulation amongst us, let it be in the direction of each Member rivalling the other in humane and honourable conduct, so that to us may be extended the same proud attribute which the physician before alluded to has so well portrayed.

When we contrast the condition of our science, with its crude and uncultivated state rather more than half a century ago, we cannot but feel the conscious pride that we now possess men who devote all their energies and skill to the furtherance of those means which have taken away the sting of pain, and transferred a miserable into a happy state of existence. May each succeeding year find us making great progress in the same direction.

But, further than this, we can reflect with pleasure on the light that intelligent Dentistry has shed upon many diseases, which but for it would have been consigned to terrible operations. Many years since a case of a somewhat equivocal character came under the care of a friend of mine, presenting symptoms of a very grave nature. The subject of it was a gentleman, forty-seven years of age, whose health had been failing for a considerable time, and whose personal appearance would lead to a suspicion of the existence of malignant disease.

I will narrate the particulars in the words of my friend, who related it to me as a great triumph on the part of a Dentist, and as a specimen of the error in diagnosis that might sometimes be committed even by the most eminent surgeon.

“On the 11th of November, 1866, a gentleman consulted me for an enormous projection of the palate, impeding deglutition,

and preventing proper articulation. A corresponding swelling made its appearance in the right maxillary bone, pressing the floor of the orbit upwards to such an extent as to cause some protrusion of the eye, and also extending laterally, so as almost to close the right nostril. The palate bone was considerably thinned, and on pressure was found to be very elastic. The patient complained of excruciating pain, which came on periodically, and was much increased by pressure in any direction, but in the greatest degree by mastication. He looked sallow and very anxious, and reduced to the extreme of weakness.

“I could not but arrive at the conclusion that this was a case of malignant tumour of the antrum, and advised my patient to lose no time in going to London, and consulting the most distinguished surgeon then living. Having made the necessary arrangements, he went to London, and consulted the professor before alluded to; and on December 20th I received his opinion in these words;

“‘There is, I have no doubt, a tumour in the right antrum. Before giving a decided opinion as to an operation, I think it will be better to watch progress; but if the growth be of the short duration which Mr. J.— states, I fear there will be serious mischief ere long, and on that account an urgent necessity for the operation.’

“It happened that the patient had a great many stumps of teeth, which irritated the gums and produced pain, but only one tooth on the right side—the canine. I went with him to a Dentist to have the stump removed, and at the same time it was determined to extract the canine tooth. A drop of offensive matter followed the extraction, and on passing a trocar into the antrum a deluge of matter followed it of so dreadfully offensive a character that the dentist was driven from his room for the remainder of the day. On exploring the antrum not a trace of tumour existed. The patient rapidly got well, and now enjoys excellent health. No doubt it has occurred to many of you how frequently a carious tooth will give rise to a fistulous opening, not only in the face, but at a considerable distance from the seat of irritation.”

Many such have come under my own observation; but the same surgeon that furnished the particulars of the foregoing case, mentioned an instance of a lady in Devonshire who consulted him for a fistulous opening in the shoulder of three years’ standing. She had consulted several surgeons of eminence, amongst others Sir Astley Cooper and Sir Benjamin Brodie, both of whom found the

case intractable. Her general health was good, nor did she suffer any pain, excepting from the ineffectual application of caustics, and even actual cautery. On visiting this lady one day she complained of a slight pain in a molar tooth, on the same side as the fistula. On examination all her teeth appeared to be sound, but on passing a probe between two molar tooth the pain was considerably increased. The surgeon desired her to consult Mr. Sheffield, late of Exeter, who extracted a decayed molar tooth, and in ten days' this fistula of three years' standing was healed.

These are two of many instances in which the Dentist has succeeded in relieving distressing conditions where the best directed efforts of eminent surgeons have failed.

I will not weary you with numerous other illustrations, and only cite these, not out of any arrogance or assumed superiority, but simply to exemplify what I consider to be a great advantage derivable from the amalgamation of the surgical and Dental professions.

I will now pass on to the consideration of other matters more immediately connected with our present object, and beg to apologise for having occupied so much of your time by reciting cases which ought properly to form a subject for discussion rather than a part of a presidential address; but as they appeared to me to give force and point to the light which intelligent Dentistry could sometimes afford to surgical diagnosis in some obscure diseases of the jaw, I could not refrain from bringing them before you. There are one or two subjects which I consider of sufficient importance to command our attention, in order to ascertain your individual opinions upon them. First, it has been considered by some of our Members that it would be desirable to send delegates from time to time to confer with the British Dental Association. From this I imagine much benefit might result to us, inasmuch as it would be the means of keeping us thoroughly acquainted with the opinions and practices of many men who stand deservedly high in their profession, and establishing a link of friendship by which the trunk and its branches may be reciprocally benefited. Every now and then many useful and valuable discoveries are made in our profession, as in others, and various hints may be elicited from headquarters which would come to us with greater force and promptitude than if we trusted solely to the tardy and often precarious information derivable from periodicals.

There may be different opinions on this matter; but I simply mention my individual views, and hope they may be compatible with yours.

Another matter has been hinted at, but I am not aware that much progress has been made in its assuming a definite shape. I allude to the prospect of the county of Gloucestershire being associated with the Western Counties. To this I, individually, can see no possible objection, provided it introduces "good men and true" into our society. The wider, under certain limits, associations of this kind extend, it is generally found that they become more useful, by establishing one code of ethics, by which the conduct of large bodies of men must be regulated, and enforcing that gentlemanly demeanour which is so essential to be observed by every member in his professional intercourse with his brother practitioner.

I hear also with pleasure that since the formation of our Association a kindred one has been established in the midland counties, exemplifying the benefits resulting from the good example we have set.

With so extensive a sphere as it possesses, it will necessarily be numerically much larger than ours: and we cannot but hope that the same concord may exist amongst its members, of which I think we have an earnest amongst our own. It is at all times a source of pleasure to find bodies of professional men, in whatever department, co-operating for their mutual benefit, and that of the community at large.

It gives a tone to society which it is desirable to establish; and by the relationships which are brought about by this means, the dignity of a profession is sure to be upheld, and the best possible security given that honour and uprightness are the guiding principles by which such Associations are regulated.

I think I may safely say that each member of our society would be ready at all times to stretch forth the right hand of fellowship to every member of the Midland Association, and endeavour to impart, and at the same time to glean, everything that is useful and scientific in the profession to which we belong, and in the cultivation of which, mutuality of sentiment and earnestness of purpose will be found the best ingredients to secure our permanency, and the successful furtherance of our operations for the public weal.

In the laws and regulations of the Midland Association, I presume, are to be found the same ruling principles of conduct by which we are guided. In wishing them prosperity, I will only repeat what I said with reference to ourselves, that my earnest

desire is that in years to come they may look back with perfect satisfaction to the endeavours they have made to enhance the credit, honour, and respectability of the profession of which they are members.

To make our body creditable and a blessing to the community at large, as well as to its individual members, I think it is desirable that all who are connected with us should be amenable to the same code of laws, a departure from which might be at once subjected to the opinion and supervision of the Association, or a committee appointed for the purpose, that all infractions of its rules or other irregularities might be rectified and suppressed for the future.

Nothing in the shape of unanimity or friendly feeling could be firmly established without such a provision as this, and it is with a view to cement this, that I now mention and give my adhesion to it.

I am not aware that it is necessary for me to make any further remarks on this occasion; and not to weary you by extending my address to a greater length, I will only observe that, making the acquisition of knowledge and skill our polar star, and actuated by strict honour and integrity, we shall secure for ourselves, and I hope transmit to posterity, that credit which all of us must desire to obtain; and in years to come, when taking a retrospect of our past lives, and of the manner in which we have performed our duties to each other and our suffering fellow-creatures, we may each have the intense satisfaction of having mutually endeavoured to elevate our science to that pinnacle of honour and excellence which it ought to be our highest ambition to maintain.

Reviews.

*The Specialist.**

WE have before us the first number of a periodical, which purposes devoting its pages to the special branches of

* *The Specialist*: A journal of Medical and Surgical Science in the special branches of the eye, ear, throat, teeth, skin &c., including reports of British and foreign special hospitals and dispensaries; original articles and contributions, correspondence, and home and foreign news, in connection with the above specialities.—Published monthly, price 6d., by J. and A. Churchill, New Burlington Street, W.

Medicine and Surgery. That the tendency to devote special attention to some department of Medicine or Surgery yearly increases, there can be little doubt; whether this is desirable is questionable, but we do not see how it can be otherwise, when the extent of the subject makes it utterly impossible for the practitioner to be profound in all, and whilst the public are ever demanding for some special qualification in those whose aid they seek, be it even in matters so general as dyspepsia, or a cancerous breast.

That there is room for such an undertaking we doubt not, but we should regret to see anything like a severance of the literature of the special from that of the general subjects. Moreover, most of the recognised specialities have their own literature, or are at least likely ere long to have it, and these will doubtless receive the select productions; whilst there will always be a direct inducement to the specialist to have his discoveries or improvements appear in general medical literature.

The work in question, which nevertheless may be found to fulfil a want, and render good service, is edited by a physician, holding the appointment of dermatologist to a special hospital in one of our largest English towns. It appears in the modest form of a monthly periodical, of fourteen pages, of good and clear type, and at the moderate charge of sixpence per number.

The present issue contains, amongst other matter, articles on "The Neglect of Special Training in our Medical Schools," by Dr. H. Macnaughten Jones; "Rhinoscopy," by Spencer Watson, F.R.C.S.; "Soothing Ointments, and the indications for their use," by Dr. McCall Anderson; "A new form of Lime-light Apparatus, for use in examination and treatment of Laryngeal, Aural, Nasal, and Ophthalmic Cases," by Lennox Browne, F.R.C.S., Ed.; "Dentistry," by Morton Smale, M.R.C.S., and L.D.S. There are also reports of the British Medical Association; the British Dental Association; Western Counties Dental Association; British Ophthalmological Society, &c. We

can only heartily desire the undertaking may have a useful and successful career.

The Practitioner's Handbook of Treatment in the Principles of Therapeutics.

BY J. MILNER FOTHERGILL, M.D.

Another edition of this useful work proves its acceptability to the student of medicine. The new volume contains the following additions, viz.:—"When not to give Iron;" "The Functional Disturbances of the Liver;" "The means of acting on the Respiratory Nerve Centres;" "The reflex consequences of Ovarian Irritation;" and "Artificial Digestion." Iron being a very favourite tonic, and one largely prescribed by the Dental Surgeon, it may be well to bear in mind that whilst it is most valuable in cases of debility, combined with anæmia, its employment is contra indicated in conditions of plethora and vascular fulness, congestion, or tendency thereto, of important organs, especially of the brain and lungs, and intestinal irritation. Also, when the tongue is thickly coated, or red and irritable, it is well to withhold chalybeates altogether. The portion of the volume that more directly concerns the Dental practitioner is a copious extract from Mr. Sewill's work, "The Student's Guide to Dental Anatomy and Surgery," in regard to Dental caries. That such a subject should be included in a work on Therapeutics is, we consider, most desirable, and that the opinions of the latter author on the causes of that disease, if somewhat theoretical, are at all events coupled with suggestions for its prevention, all will fully agree with. The work is one we can recommend with confidence, both to the Dental student and the Dental practitioner; but to the latter especially, as it less partakes of the nature of a handbook than its name implies, and it is written in an agreeable and readable style.

Fox Testimonial.

THE presentation of a Testimonial to Mr. C. J. Fox, was, with his wish, recently made to him privately at his own residence. After a few kind and complimentary remarks, Mr. Dennant handed to Mr. Fox the following address and a purse of a hundred guineas:—

TO

CHARLES JAMES FOX, ESQ., M.R.C.S., L.D.S., ENG.

Editor of the 'British Journal of Dental Science.'

DEAR SIR,—We, the undersigned, on behalf of numerous members of the Dental Profession, beg to tender you our hearty thanks for the valuable services you have rendered in the cause of Dental Reform, both in your capacity of journalist, and as an individual member of the profession.

To you is due the credit of initiating and fostering what is known as the Dental Reform movement (your Editorial motto being "Registration and Compulsory Education") which has secured the education by curriculum, after July 22nd, 1878, of every fresh member of the profession.

We recognise the care and ability which you exercised in controlling the somewhat irregular forces in the profession so as to utilise them for one great united effort, culminating in the formation of the Dental Reform Committee, and the courage you manifested in attacking any action that seemed likely to imperil the primary principles of the proposed scheme of legislation.

Though we know you will be the first to acknowledge that, but for the work of the Dental Reform Committee, and more especially the wise generalship of Mr. Tomes, its President, and the energy and tact of Mr. James Smith Turner, its Hon. Sec., the Act of Parliament, now in force might have been delayed many years, we are equally sure that but for your persistent and persevering efforts in the first place, the work so successfully accomplished might have been indefinitely postponed.

Thinking, therefore, that some record of the circumstances, more permanent than mere spoken words, might

not be an unacceptable memento of your share in the reform accomplished, we beg to offer for your acceptance this written expression of our feelings, together with the accompanying purse of one hundred guineas, not as in any sense conveying an estimate of the value of the services rendered, but rather as a slight souvenir of our regard.

We would further express the hope that your life may be spared many years for useful work in the advancement of our profession, and to witness the great benefits derived from what has been well described as "the best measure, both for the general public at once and the practioners hereafter, that has ever been effected in regard to Dental Surgery."

We are, dear sir,

Faithfully yours,

J. H. KYAN (Preston)	} <i>Committee.</i>
W. MARGETSON (Leeds)	
FRANK A. HUET (Manchester)	
J. DENNANT (Brighton)	
J. SUGDEN CRAPPER (Hanley)	
THOMAS FLETCHER (Warrington)	
J. W. MANTON (Wakefield)	

[For want of space last month the foregoing was unavoidably withheld.—ED. M.R.D.S.]

Dental Education.

THE APPROACHING SESSION.

BEFORE the issue of our next number the Medical Schools of the South will have entered upon a fresh session—virtually, a fresh year. It has heretofore been the custom, in regard to *The Monthly Review of Dental Surgery*, to devote the greater portion of the contents of one number to information needed by those who, on their own part or that of others, desire to obtain a Dental or Surgical qualification, and hence termed "The Students' Number." This course has been departed from this year, on the ground that such information may be so readily obtained

elsewhere that it is believed it would be more generally acceptable if it should be omitted in preference to other matter which must otherwise be excluded; but in thus doing we may with advantage point out to the above that which we think it is their especial interest to bear in mind, viz.: that prior to the commencement of any course of medical study, the pupil must possess a certificate that gives evidence of his having acquired a certain standard of ordinary English education. Such certificates are now furnished by a large number of educational bodies both at home and in the colonies. That, perhaps, most generally made use of by those who desire to obtain the Dental Diploma of the Royal College of Surgeons of England, or the Membership, or Fellowship, of the same body, is their own Preliminary Examination conducted by the College of Preceptors; it is an Examination no youth who has been at an English school, of average standing, need at all fear, and we cannot too strongly impress upon all having the charge of youth, the importance of the latter taking advantage of one of these Examinations, even when the prospect of their entering any profession is comparatively small. That which may be done with ease and almost pleasure at the age of sixteen or seventeen becomes a severe trial at twenty-five or thirty, as many have found to their bitter experience, and has often prevented a man whose tastes would otherwise have eminently fitted him for a profession, having to forego the same. So soon as school education has terminated is the period for presentation for one of the easier examinations; for the more difficult, a year or two's reading with a suitable tutor will be desirable.

During the ensuing year, the preliminary examination required by the Royal College of Surgeons will comprehend the following:—

PRELIMINARY EXAMINATION IN ARTS.

The following are the subjects of the Examination:—

Part I.—COMPULSORY SUBJECTS.

1. Writing from dictation.
2. English Grammar.
3. Writing a short English composition, such as a description of a place, an account of some useful or natural product, or the like.
4. Arithmetic. No Candidate will be passed who does not show a competent knowledge of the first four rules, simple and compound, of Vulgar Fractions, and of Decimals.
5. Questions on the Geography of Europe, and particularly of the British Isles.
6. Questions on the outlines of English History, that is, the successions of the Sovereigns and the leading events of each reign.
7. Mathematics. Euclid, Bk. I., II. Algebra to Simple Equations inclusive.
8. Translation of a passage from "Cæsar De Bello Gallico," Bk. II.

Part II.—OPTIONAL SUBJECTS.

Papers will also be set on the following six subjects, and each Candidate will be required to offer himself for examination on one subject at least, at his option; but no Candidate will be allowed to offer himself for examination on more than four subjects:—

1. Translation of a passage from the First Book of the Anabasis of Xenophon.
2. Translation of a passage from X. B. Santine's "Picciola."
3. Translation of a passage from Schiller's "Wilhelm Tell."

Besides these Translations into English, the Candidates will be required to answer questions on the Grammar of each subject, whether compulsory or optional.

4. Mechanics. The questions will be chiefly of an elementary character.
5. Chemistry. The questions will be on the elementary facts of Chemistry.

6. Botany and Zoology. The questions will be on the classification of Plants and Animals.

The quality of the handwriting and the spelling will be taken into account.

N.B. Each Candidate (*who has not already paid the amount*) is required to pay a fee of £2 on the morning of the first day of the Examination, prior to his admission thereto. Examinations are held in March and September. The exact dates of the Examination will be duly advertised, when fixed, in the Medical Journals; and Candidates are required to send in the prescribed Forms of Application not less than three weeks before the commencement of the Examination.

Specimens of the Examination Papers, from 1860 to 1880, may be had of C. F. Hodgson and Son, Printers, 1 Gough Square, Fleet Street, E.C., price 6d. the set; or by return of post, on enclosure of 7 postage stamps.

Note.—A Candidate in order to qualify for the *Fellowship* is required, in addition to the subjects included in Part I., to pass (from Part II.) in Greek—French or German—and in one, at his option, of the remaining subjects in Part II.

Such then is the first step necessary for the student who may desire the Dental or other diploma of the Royal College of Surgeons: the next will be how may he best economise his time in carrying out this object. Four years after the attainment of the above, must be occupied in the acquirement of professional knowledge before he can, being twenty-one years of age, present himself for final examination. During three years of this period the applicant for the Dental Diploma, must have studied practically mechanical dentistry, and it is therefore most important that this should be entered upon so early as to leave him free his last year or two, whilst at Hospital attendance: two years of the latter study at a town, in which exist a Dental and a General Hospital or the latter only with a Dental Department each and every one recognized by the College of Surgeons, is the shortest time in which the scientific portion of his study can be acquired, and even in this, some judgment must be exercised in selecting the

attendance at both, so that they shall not interfere with each other. Such as aspire to obtain the membership of the College as well, and we trust they may be many, will find it almost impossible to carry out the additional work without devoting at least another year to Hospital attendances; exceptionally gifted individuals and such as have the good fortune to reside in towns where general Hospitals, recognized by the College exist, may be able to obtain both diplomas at the earliest period; but the attempt to carry out a great deal in a little time is likely to result in the whole being done imperfectly. We have spoken in reference to the College of Surgeons of England only, but our remarks will be applicable to the other Surgical bodies that grant licences as well.

LICENSING BODIES.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND grants a diploma in Dental Surgery under the following regulations.

Candidates must produce Certificates: 1. Of being twenty-one years of age. 2. Of having been engaged during four years in the acquirement of professional knowledge. 3. Of having attended no less than one of each of the following Courses of Lectures: Anatomy, Physiology, Surgery, Medicine, Chemistry, and Materia Medica. 4. Of having attended a second Winter Course of Lectures on Anatomy, or a course of not less than twenty Lectures on the Anatomy of the Head and Neck. 5. Of having performed Dissections during not less than nine months. 6. Of having completed a Course of Chemical Manipulation. 7. Of having attended, at a Hospital or Hospitals in the United Kingdom, Surgery and Clinical Lectures on Surgery during two Winter Sessions. 8. Of having attended two Courses of Lectures upon each of the following subjects: Dental Anatomy and Physiology (Human and Comparative), Dental Surgery, Dental Mechanics, and one Course on Metallurgy. 9. Of having been engaged, during not less than three years, in acquiring a practical familiarity with the details of Mechanical Dentistry, under

the instruction of a competent Practitioner. 10. Of having attended a Dental Hospital, or in the Dental department of a General Hospital, the Practice of Dental Surgery during two years. The courses of instruction and hospital practice must be by lecturers or in institutions recognised by the College.

All candidates who commence their Professional Education on or after July 22nd, 1878, must, in addition to the Certificates enumerated above, produce a certificate of having, prior to such commencement, passed the Preliminary Examination in General Knowledge for the Diploma of Member of the College, or an equivalent examination.

Candidates who were in Practice as Dentists, or who had commenced their Education as Dentists prior to September, 1859, and who are unable to produce the Certificates required by the foregoing regulations, must furnish the Board of Examiners with a Certificate of Moral and Professional character, signed by two Members of the College, together with answers to certain inquiries.

The Examination is partly written and partly oral. The written examination comprises General Anatomy and Physiology, and General Pathology and Surgery, with especial reference to Dental Practice. The oral practical examination comprises the several subjects included in the curriculum of professional education, and is conducted by the use of preparations, casts, drawings, etc. Members of the College, in the written examination, have to answer only those questions set by the Section of the Board consisting of persons skilled in Dental Surgery; and in the oral examination are examined only by that Section. A rejected candidate is not admitted to re-examination within six months, unless the Board otherwise determine. Examinations are held in January and June. The fee for the Diploma is £10 10s., over and above any stamp duty.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—The Examinations are written and oral, and consist of two separate sittings. Candidates must apply to the Secretary of the College on or before the Saturday preceding the ordinary examination, and must produce all the required certificates. Examinations for the Dental Diploma will be held as follows: first examinations, October 19th, 1880; January 25th, March 29th, April 19th, July 19th, 1881; and the second immediately after the conclusion of the first examination.

Candidates must produce evidence of having attained the age of twenty-one years, and of having passed the Preliminary Examination in General Education required for the ordinary Licence in Surgery, or an equivalent examination. They must also produce certificates of having been engaged during four years in the acquirement of professional knowledge, and of having been during that period, or at some time previous to their examination, engaged for not less than three years in the acquirement of a practical knowledge of Mechanical Dentistry with a registered Dental practitioner.

The following Lectures and other courses of instruction must have been attended at a recognised medical school or schools; Anatomy, one winter course; Dissection and Demonstration, nine months; or Dissection, nine months, and Anatomy of Head and Neck, one course of twenty lectures; Physiology, one course of not less than fifty lectures; Chemistry, Surgery, Medicine, each one winter course; Materia Medica and Practical Chemistry with Metallurgy, each one course of three months; Clinical Instruction in Surgery at a recognised Hospital, one course of six months, or two courses of three months; also the following special courses by recognised teachers; Dental Anatomy and Physiology, Dental Surgery and Pathology, Dental Mechanics, one course of each (not fewer than twelve lectures); two years' attendance at a Dental Hospital, or the Dental Department of a General Hospital.

Licentiates of the College, or registered medical practitioners, must produce certificates of attendance on the special subjects only, and are examined in these only.

Anatomy, Chemistry (with Metallurgy), and Physiology, will form the subjects of the first Examination: Surgery, Medicine, Materia Medica, and Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics those of the second.

The fee is £10 10s. Each candidate for the first Examination, must pay to the Secretary of the College £4 4s. not later than 9 A.M. of the Saturday preceding the Examinations; and if the candidate be unsuccessful £2 2s. are returned to him. Each candidate for the second Examination must pay £6 6s. not later than 9 A.M. of the Tuesday preceding the Examination; and if he be unsuccessful, £3 3s. will be returned to him. No unsuccessful candidate will be remitted for less than three months.

Examination sine Curriculo.—Candidates who were in practice before the first day of August 1878, or those not in practice but who had commenced their apprenticeship as Dentists before the first day of August 1875, and who are unable to furnish the Board of Examiners with the certificates of lectures and hospital attendance required by the foregoing regulations, must produce: 1. A certificate of moral and professional character, signed by two registered medical practitioners, together with the full name, age, and address of the candidate. 2. The date of commencing practice or apprenticeship as a Dentist, and whether, if in practice, such practice has been carried on in conjunction with any other business, and if so, with what business. 3. Whether he has any degree or diploma in Medicine or Surgery, and if so, from what College or University or other body, and at what time it was obtained. 4. The particulars of professional education. The President's Council shall determine whether the candidate is entitled to be admitted to Examination; and such Examination shall, with the exception of the Preliminary Examination, and the exemptions in favour of registered medical practitioners, as before explained, be passed on the same subjects and in the same manner as is required for other candidates, and will confer the same privileges.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The regulation as to certificates, curriculum, number of examinations, fees and examinations *sine curriculo*, are in effect similar to those of the Royal College of Surgeons of Edinburgh.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The Dental Board of Examiners consists of three Fellows of the College, three Registered Dentists, and the President, Vice-President, or other Member of the Council of the College (summoned in rotation).

Examinations shall be held at such times as the Council shall direct. The Examinations, up to the first day of August 1881, shall be practical, embracing the Anatomy, Physiology, Surgery, and Pathology of the Teeth, Jaws, and surrounding parts, and Mechanical Dentistry; and shall be partly written and partly oral.

All candidates shall lodge with the Registrar of the College, at least one fortnight previous to each Examina-

tion, the following certificates: 1. Of having attained the age of twenty-one years; 2. From two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the candidate is of good character, has been engaged in the practice of Dentistry for at least five years, and has refrained from advertising or other unbecoming modes of attracting business for at least two years previously; 3. Of having lodged in the Bank of Ireland, to the credit of the College, the fee of £10 10s., half of which shall be returned to any candidate who fails to satisfy the Examiners.

After August 1st, 1881, every candidate must lodge with the Registrar of the College, at least a fortnight previous to Examination, the following certificates: 1. Of having attained the age of twenty-one years; 2. Of having been engaged during four years in the acquirement of professional knowledge; 3. From two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the candidate is of good character; 4. Of having passed the Examination in Preliminary Education of one of the Examining Bodies recognised by the General Medical Council; 5. Of having lodged in the Bank of Ireland, to the credit of the College, the fee of £10 10s., half of which shall be returned to any candidate, if rejected; and no candidate can present himself for re-examination for six months; 6. Of having attended in a recognised school one course each of lectures on Anatomy and Physiology, Surgery, Chemistry, Practical Chemistry and Metallurgy, and Materia Medica; and two courses each of Dissections with Demonstrations, and of Dental Surgery, including Dental Mechanics; 7. Of having attended General Hospital Practice for two winter sessions, and the dental department of a General Hospital, or a Special Dental Hospital, for a further period of nine months; 8. Of having been engaged during, at least, three years in acquiring a practical knowledge of Dentistry, under the instruction of a Registered Licentiate in Dentistry.

The Examinations are partly written and partly oral; preparations, microscopes, and other appliances being used.

Licentiates in Surgery, or Fellows of any College in the United Kingdom, and Graduates in Surgery of any University recognised by this College, are examined only in subjects special to Dentistry.

Every successful candidate, previous to receiving the Licence of the R.C.S. of Edinburgh and of Ireland, and of the F.P. and S., Glasgow, shall declare that he will not advertise, or pursue any other unbecoming mode of attracting business, so long as he holds the Licence in Dentistry of the College.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIRS,—In the Calendar for 1880 of the London Dental Hospital and School, just issued, I find it stated on page 11, "Regulations for Dental Diploma, R.C.S.Eng.," that candidates require to have attended *Two* Courses of Lectures upon each of the following subjects, Dental Anatomy, &c., Dental Surgery, &c., and Mechanical Dentistry, and on page 8 we have the general fee for the Special Lectures required, framed on this regulation. Now is not this utterly at variance with the Curriculum promulgated by the General Medical Council in March, 1879, slightly modified by them in July, and published in the August number of that year's *British Journal of Dental Science*, as agreed to by all the four licensing bodies. In it one course only, consisting of at least a certain number of lectures, is laid down for each subject, \div 24, 20, and 12, respectively. That *one* course only is meant, is evident from the fact that the curriculum issued was the result of a compromise among the Licensing bodies. Previous to this compromise the R.C.S. required attendance at *two* courses, the R.C.S.E. and F.P.S.G., at *one* course of at least twelve lectures.

The R.C.S.E. took decided exception on principle to *two* courses on *any* subject being compulsory. In our Edinburgh School we have acted on this Medical Council regulation, and give *one* course of the required number of lectures on each subject. It may be said that the two shorter courses of the London School are more than an equivalent, but as there is nothing to prevent the second course being a mere repetition of the first (it is said that they actually are so), no two such courses can be equivalent to one longer course, in which there is no such repetition; possibly the regulations in the Calendar may be the obsolete ones, and given by inadvertence, but if not then the R.C.S. has broken through its agreement, both with the Council and the sister licensing bodies, in which case the legality of its regulations is a matter for the consideration of

the General Medical Council. As it is, I presume our Scotch certificates are worthless in London, and the London ones the same in Scotland, a state of things which, to say the least, is not creditable, and ought to be remedied as soon as possible.

I am, Sir,

Yours faithfully,

ANDREW WILSON, L.D.S.Edin.

Annotations.

MR. TOMES AND THE DENTAL PROFESSION.

The British Medical Journal of September 4th, contains the following article :—

WE read with interest in the *Monthly Review of Dental Surgery*, a report of a meeting of members of the British Dental Association for the purpose of presenting testimonials to Mr. John Tomes, F.R.S., and to Mr. James Smith Turner, in recognition of their services as President and Secretary of the Dental Reform Association. Although a handsome sum was subscribed for the purpose, Mr. Tomes accepted only a portrait of himself as a presentation to his family; and to Mr. Smith Turner was presented a clock, and cheque for the balance of 350 guineas. Anyone who is aware of the part which Mr. Tomes has played in the recent organisation of Dentists under the Dental Act, will know that it is very greatly to his exertions that the Dental profession and those who are registered under the Act owe their present organisation. Differences of opinion exist as to the justice of the particular provisions of this Act, which allows the title of Dental Surgeon to Licentiates in Dentistry of the College of Surgeons in lieu of limiting it, as many contend it ought to be limited, to members of the College of Surgeons. Apart from this contention, which admits of indefinite argument, but which at present settles the question on the larger basis, everyone will acknowledge that to Mr. Tomes, more than any other man, is due the present state of things, which has, at least, the advantage of laying a comprehensive basis for the organisation of the Dental profession, and the establishment of a *Register*, to which, in future, no one will be admitted who has not made good his claim by an excellent preliminary education and a satisfactory examination by one of the chartered bodies. Mr. Tomes has devoted himself to the work with unswerving firmness, singular energy, and great practical skill. Many of those with whom he had been in the habit of working in the past, separated themselves from him; and if any man had a peculiar temptation to adhere to a very rigid and particular standard of qualification, or, at least, some distinguishing aristocratic mark for those who bear such qualification, it would be Mr. Tomes, who

in his own person, and in that of his son, has shown not only how to value, but how to attain, the highest scientific titles which are within the reach of any professional man. The more democratic view which he took was certainly not dictated by any class sympathy; and, in separating himself from the majority of qualified surgeons practising Dentistry on the point at issue, Mr. Tomes must have made no small personal sacrifice to a principle which he believed of public value. His personal influence with members of the Medical Council, his excellent scientific position, and the facilities which he had for devoting to this cause time, faculties, and experience, which he had set free from the exigencies of active practice, enabled Mr. Tomes to achieve a rapid and complete success, which astonished his own profession, and completely outstripped the slow movements of the Medical Council. It is curious, to this day, to notice how little even the leaders of that Council either understand their position, or have grasped the meaning of the war which wages. At the recent dinner of the Association of Surgeons practising Dentistry, leading members of the Council stood up to protest against the provisions of the Dental Act which give the title of Dental Surgeon to other than members of the College of Surgeons, apparently not seeing that they are the persons responsible for it; for, by lifting their finger, or by a word from their President, Dr. Acland, they could have prevented it; and although, if one can accept the individual utterances of most influential members of the Council, they agree with the Association of Surgeons practising Dentistry, yet it is certain such was the influence of Mr. Tomes, and such the glamour which he exercised over the President and Members of the General Medical Council, that they allowed his Bill, a private Bill, to go through unopposed in a busy Session, although it was, in a number of respects, essentially different from the Bill which they had approved in Council, and although it is now declared to contain provisions of which they strongly disapprove. Whatever may be said of this from the point of view of medical policy, at least it reflects credit on Mr. Tomes. He knew his own mind; he framed a definite scheme which should be all conclusive, and should settle for ever the question of making a Register; and he carried his scheme. No wonder, then, that the Dentists feel that they owe to him and his able lieutenant, Mr. Smith Turner, a debt of gratitude; and it is fitting that one of the first acts of the British Dental Association—which has been framed on the model of the British Medical Association—should be to testify, in an open, public, and lasting manner, how great is their sense of the value of the services which these gentlemen have rendered to the profession of Dentistry.

THE DENTAL ACT.

TO THE EDITOR OF THE "BRITISH MEDICAL JOURNAL."

SIR,—Will you kindly allow me to correct several errors of recorded

facts into which the author of the article, "Mr. Tomes and the Dental Profession," has unconsciously fallen? There were and are no means of knowing the precise number of qualified surgeons who practice dental surgery; but there is no reason to suppose that the number materially falls above or below one hundred. Of these, seventy petitioned Parliament in favour of the Dentists' Bill, and sixty-eight subsequently memorialised members of Parliament, individually, to support the Bill as it then stood. Hence, instead of acting against, as stated in the article, I acted with the majority of surgeons practising dental surgery.

When the dental section of the Lord President's Medical Bill was, clause by clause, under the consideration of the Medical Council, a motion was made which aimed at depriving the Licentiates in Dental Surgery of the right to use the title of dental surgeon. The question was then fully considered. Sir James Paget, Professor Rolleston, Mr. Simon, and Dr. Storrar, took an active part in the discussion against the motion, which was rejected by a vote of twelve to five. Hence the right was, contrary to the allegation in the article, approved and preserved by leading members of Council in their place at the Council board. *

In the minutes of the Medical Council, July 1878, will be found a letter from the Government council, Mr. Jenkyns, stating that the Dentists' Bill, under the direction of the Government, had been amended, so that the dentists under the amended Bill would be placed in the same position as they would have been in had the dental section, as approved by the Council of the Lord Presidents' Bill, become law. More than one-half of the letterpress of the Dentists' Act consists of clauses transferred from the Medical Bill cited; and hence it cannot be justly said that the Act is "essentially different from the Bill which they (the General Medical Council) had approved in Council."

The evidence of the Council's minutes, and the very extensive changes the Bill underwent in the House of Lords at the instance of the Council, prove that the provisions of the Act were made to accord with the decisions of the Medical Council; notwithstanding the off-hand allegations to the contrary made (even by two or three members of Council) in after dinner speeches, to the guests at the quoted banquet given by the few dentists who were acknowledged opponents of the Dentists' Act.—Yours, etc.,

JOHN TOMES.

Penzance, September 7th, 1880.

EXPURGATION OF THE DENTAL REGISTER.

Our readers are no doubt aware that the British Dental Association is engaged actively in the effort to induce the General Medical Council

* See minutes of Medical Council 1878; and reports of discussion in the medical and dental journals July 1878.

to elide from the Dental Register persons who had obtained admission thereto as pharmacutists, they not being legally recognisable as such. Our attention was last week called by Dr. F. T. Porter, of Dublin, to the fact that there are also a number of Dentists who are inscribed on the Dental Register as "in the practice of dentistry in conjunction with" surgery or medicine, or both, although their names do not appear in the Medical Register. Of course the absence of the names of these gentlemen from the official list does not prove that they do not possess a registrable medico-chirurgical qualification, but we believe that the great majority of them do not possess any such qualification whatsoever; that they have been registered as Dentists upon a false representation; and therefore, that their registration is invalid, and they are themselves liable to severe punishment.

We ask the attention of the British Dental Association to the matter, and suggest that, if these Dentists have not been already included in the expurgation list, they ought to be added to it.—*Medical Press and Circular.*

"THE MEDICAL DIRECTORY."

We are in a position to state that the editors of the "Medical Directory" have decided upon again inserting in their Directory the names, &c., of the Licentiates in Dental Surgery of the several corporations.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

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THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION

No. VIII.

OCTOBER, 1880.

VOL. I.

THE subjects rightly embraced in a Medical education, and the degree and manner in which those subjects should be respectively studied, have been freely discussed in many places during the last few weeks. Dr. Michael Foster in an "Address in Physiology,"* of unsurpassed interest, contends without contradiction that no medical subject—now that the entrance upon medical studies is preceded by a tested preliminary education—need be studied as heretofore as a mere mental training, and proposes that topographical anatomy, which has hitherto been so studied, should, to a certain extent, give way in favour of a more complete knowledge of physiology. The address must, and no doubt will, be read by all interested in medical education, whether general or special. The following quotation will answer our present purpose:—

"I think I am not overstating the case when I say that, in the two years (or less than two years) which the medical student devotes to studies other than clinical, 60 or 70 per cent. of his time—in some cases even more—is spent on the study of topographical anatomy. That study may be regarded in two lights—as a discipline, and as practical useful knowledge. The late Dr. Parkes, in a remarkable introductory

* Address in Physiology, delivered at the Annual Meeting of the British Medical Association, 1880.—Published in *British Medical Journal*, August 21st, 1880.

address which he delivered at University College, London, many years ago, insisted most strongly that its value as a discipline was far higher and more precious than its direct utility; and I imagine that the more one reflects on the matter, the more clearly this will appear. The details of topographical anatomy have this peculiar feature, that, though they can only be learnt with infinite pains and labour, unlike other things hard to learn, they vanish and flee away with the greatest ease. I would confidently appeal to my audience of practical men, how much of the huge mass of minute facts, which in their youth they gathered with so much toil, remained fresh in their minds two years after they passed the portals of the College; and how much now remains to them beyond a general view of the parts of the human frame, and a somewhat more special knowledge of particular regions, their acquaintance with which has been maintained by more or less frequent operations. I would confidently ask them what is the ratio, in terms of money or any other value, which the time spent in those early anatomical struggles—say over the details of the forearm—bears to the amount of that knowledge remaining after twenty, or ten, or even five years of active practice, or to the actual use to which that knowledge has been put.

“No, it is as a discipline, and not for its practical utility, that anatomy has been so useful; and this, indeed, may frequently be recognised in the questions set at examinations. When the candidate is expected to describe, within the error of a few *millimètres*, the structures traversed by a bayonet thrust obliquely through the neck, or is invited to reproduce written photographs no less exact of the parts which, from skin to skin, underlie a triangle or quadrangle drawn in ink on the front or back of the thigh, it is clear that the examiner has in view, not the needs of practical life, but an easy means of testing the proficiency of the student in mnemonic gymnastics. Of the value of anatomy as a discipline, there can be no doubt. In past years, it has served as the chief culture of the medical student—as the chief means by which the rough material coming up to our great medical schools were trained to habits of accuracy, of exactness, of patient careful observation; and their memories strengthened by exercise for the subsequent strain which would have to be put upon them by more strictly professional learning. In this aspect, the very sterility of the subject was a virtue. The mere fact that the separate details seemed to hang loosely, isolated in mental space, held together by no theory, by no ideas, inasmuch as it made the learning a harder task, increased its disciplinary value. Most wisely did the leaders of our profession insist that no trouble or expense should be spared to afford the neophyte this preparatory scientific training; and that, as far as examinations and the like can go, no pains should be spared to compel him to avail himself of the opportunities offered. Indeed, viewed as a branch of education, the machinery of anatomical instruction has for many years past not been equalled by any.”

Professor Burdon-Sanderson in his introductory lecture, says,—

“The precious years which immediately precede a man’s entry on professional duty, are far too valuable to be wasted in learning anything he does not intend to retain.”—*British Medical Journal*, October 9th, 1880.

The observations of these most distinguishing physiologists and teachers, support the view which has been taken respecting the education of the Dental Surgeon, from the time the College of Surgeons was in 1857 asked to establish a Dental department, up to the determination of the Dental curriculum by the Medical Council in 1879.

An education equal in degree, but different in kind to that of the General Surgeon—an education which embraces a knowledge of the general principles of Medicine and Surgery, and a special, precise, and practical knowledge of Dental Surgery, was asked and given, the degree of education progressing as the attendant circumstances allowed, up to its present advanced condition.

The place assigned by Dr. Michael Foster to topographical Anatomy in Medical education, will certainly hold good in the education of the Dental Surgeon. Physiology and Chemistry, subjects now inseparable and of surpassing interest, are equally necessary to the Special and General Surgeon.

The position of Medicine and Surgery is not quite parallel. The general principles of each must be thoroughly known, but it is not necessary that the Dental Surgeon should be practically acquainted with all the details that pertain to any other branch of either than that which he selects to practice. It is not needful that he should become a skilful midwife or oculist, or that he should be skilled in the treatment in any other class of diseases than those to the treatment of which he proposes to devote his life. For if he does acquire such detailed knowledge,

it will, when no longer used, "fade like a raindrop upon a porous stone," and the time devoted to the acquisition will have been wasted, and, perhaps, worse even than wasted, for the subject may have been studied at the cost of neglect of the practical study of his speciality. It does not admit of doubt that the high degree of manual skill, without which the professed dentist is but a shameless pretender, can be acquired best, perhaps can be fully acquired only during youth; that if the acquisition be put off till a medical education is completed, the golden opportunity will have been lost. Mr. Fawcett tells us that the blind may acquire manual skill sufficient to secure independence, but that it can be gained only during youth. The adult blind, he says, have a greatly diminished power of learning.

The time may come when the principles of Medicine and Surgery will be taught before their special application to any particular class of disease, and their modification resulting therefrom is entered upon. Till that time arrive, it will be in the interest of the Dental Surgeon to study with the utmost care the general principles and their application to his own speciality, and to acquire, while he can, a very full and perfect knowledge, practical, as well as scientific, of Dental Surgery, before he enters upon a detailed study of their application to any other branch or subject of Medicine or Surgery, the practice of which he does not propose to follow, and a trustworthy knowledge of which can not be retained or extended in the absence of continuous general practice.

The qualified surgeon who has devoted himself to the practice of dentistry, may be legally qualified to treat any and every kind of case, but would he be morally right in undertaking the treatment of a case, say of fever or of stone? all his knowledge of which diseases lies in a misty memory of facts brought before his notice, and studied for

a pass examination in long past student days. As a matter of fact, the dental surgeon of necessity limits his practice to his speciality, and the general surgeon as a further fact, where selection is possible, declines to take Dental cases, though legally entitled so to do. In the absence of special training, he cannot be expected to possess the special knowledge requisite to successful treatment, and to add the Dental to the over loaded Medical curriculum, would be to greatly increase the rejections which, in the case of the College of Surgeons, have already risen to the formidable amount of upwards of thirty per cent. of the candidates for diplomas. Hence it is that Dr. Michael Foster, in asking for more physiology, asks for less topographical anatomy.

The Dental curriculum requires for its honest fulfilment, the whole of the assigned four years, and more must not be attempted in the same four years, for to repeat the words of Professor Burdon-Sanderson,—“The precious years which immediately precede a man’s entry on professional duty, are far too valuable to be wasted in learning anything he does not intend to retain,” to which may be added, or which his subsequent occupation will not allow him to retain. If then more medical knowledge is required of the student than is embraced in the dental curriculum, more time must be given for its acquisition.

Transplantation and Replantation.

(Continued from page 425.)

AT the period when transplantation was systematically performed, the operators kept themselves supplied with an assortment of dried teeth, *i.e.*, sound teeth, obtained generally from the dead subject, to make use of in case the tooth to be transplanted should not prove adaptable to its

new abode. The process is not spoken favourably of, as the results were mostly unsatisfactory, but at times such teeth became perfectly firm, and even resisted the greatest efforts at their removal. We can hardly for one moment suppose that teeth in the condition these were could have ever become attached to a living alveolo-dental membrane, and the difficulty of accounting for this firmness would have been great indeed, had it not been already solved for us. In Langenbeck's *Archiv. für Chirurgie*, vol. iv., is a paper on "The Replantation and Transplantation of Teeth," by Dr. A. Mitscherlich, which deserves to be better known, and which, apparently, cannot have come under the observation of those who recently contributed to the *Lancet* on the subject, the excuse for which is less, since it has been translated into English.* The author, in addition to much interesting and original matter, records the following experiment. In the upper jaw of a dog of a year old, Dr. Mitscherlich inserted into the socket of an incisor he had removed, a similar tooth taken from a dog's skull, and which he retained *in situ* by means of a silver wire passed through a hole in the tooth, and a hole bored through the alveolar process of the jaw. "After six weeks the dog was killed, having been given during the last few days three grains of picronitrate of potash three times a day; the carotids were immediately injected. The muscles, like the gums, were coloured yellow: neither, however, in the implanted tooth nor in the sound ones was any alteration of colour perceptible. The silver wire was porous, and no longer held the tooth; it was removed. The tooth was quite firmly seated, and could not be moved in the least by the fingers. The gums, as in the remaining teeth, were accurately applied both to the alveolar process

* "Archives of Dentistry," Edited by Edwin Truman, vol. i., p. 169.

and also to the tooth itself, and nowhere could any alteration be found in it. The tooth was sawn through lengthways, together with the upper jaw, with a fine saw, so that the pulp cavity was laid bare in its whole extent. The latter was only filled with a little detritus, and no trace of the pulp was discoverable; none of the injection, too, had been forced into the cavity. The tooth was everywhere most intimately connected with the surrounding parts, and suppuration showed itself nowhere. Of the periosteum, on the other hand, there were only in a few places some small remains discoverable. On the posterior surface of the tooth two small cavities were visible; the larger of which lay more towards the point of the fang, and extended to the pulp cavity; they were filled with a soft substance, and their walls appeared roundish. These appearances were entirely confirmed by microscopical examination, inasmuch as only in a few places, especially on the anterior surface of the tooth, were traces of the periosteum to be demonstrated; where this was absent the tooth was eaten away, and its absorption had proceeded in such a manner, that a multitude of globular elements appeared on the section, resembling the fragments which we find in ivory pegs which have been bored into bones, and retained in them a considerable time; in the two above-mentioned cavities the absorption had proceeded farther and farther, and had at last attained its above-mentioned great extent. The cementum could still be demonstrated in certain places, it was, however, absorbed in the greatest part of its extent. In the cavities of the tooth substance, masses of bone were embedded, they were applied to the walls of the cavities without any kind of intermediate substance, and so held the tooth with such extraordinary firmness. This osseous deposit, which was directly connected with the alveolar processes, was freely traversed with blood vessels, which

sometimes extended themselves close up to the tooth substance. It was also so fully developed, that the process had to be looked upon as fully accomplished, and therefore, a later exfoliation of the tooth was not to be expected. The dentine itself showed nothing abnormal."

We have quoted the author of the foregoing at some length, as some of his conclusions upon this interesting experiment might seem antagonistic to our own. Thus, whilst we agree with him in concluding that a dead tooth becomes united to a living jaw by a certain amount of absorption of its fangs by osteoblasts, and a subsequent calcification of such tissue, we do not believe such process as fully accomplished or permanent. The valuable researches of Tomes and De Morgan show that during life a continual process of formation and absorption is taking place in bone, whilst the former has also pointed out that the process of absorption in the fangs of temporary teeth is one alternating between absorption and deposition, though in the end in favour of the former, *i.e.*, that the osteoblasts which effect the absorption of the dentine often become calcified, but are again eventually decalcified and become active osteoclasts. What determines these bodies to act, so to speak, in a positive or a negative capacity would be most interesting to discover, and, in considering the subject, we can hardly overlook the views of Mr. Bridgman, who compares the process of bone formation and decalcification to what occurs in an electrolytic cell, where, by changing the direction of the current, the electrodes assume precisely opposite functions.

If, then, we could discover the conditions that would preserve the bone tissue, in connection with the dentine, from undergoing decalcification, we might, with every prospect of success, transplant dead teeth, but which, as at present carried out, invariably, we believe, eventually,

suffer the fate of ivory pegs introduced into the extremities of bones in disunited fractures. Indeed, this result, although more slowly effected, appears nearly always to follow in those cases where the transplanted or replanted tooth has lost much of its alveolo-dental membrane; whether the excising of a portion of the fang, as advocated by Magitôt, will prove beneficial or otherwise, remains to be seen.

Porcelain teeth having indentations in their fangs have been suggested, first, we believe, by Mitscherlich,* and again by a recent writer in the *Lancet*. The former actually attempted two cases, and with the success we should have anticipated, for when after four or five weeks the caoutchouc splint which retained them in *situ* was removed they immediately followed the splint and fell out. "Ossification had not taken place; the entirely heterogeneous mass of stone had acted as a foreign body, produced granulation and suppuration, and so prevented union."

In conclusion, we think enough has been stated to show that transplantation or replantation of living teeth, or at all events, of teeth having living alveolo-dental membrane may be exceptionally carried out with benefit to the patient; if the chances of permanent success be not very great the chances of injury are, we believe, small, and have been greatly exaggerated. No such case has come under our observation, but then in all we have witnessed, the transplanted or replanted tooth has never been ligatured or otherwise forcibly retained in its alveolus. We believe many of the cases of failure, as probably those also of bone exfoliation, arose from this procedure. A tooth, after either operation, although at the time perfectly adjusted to its proper position, becomes, after a day or two, elongated

* *Op. Cit.*

from its socket and less firm; the result of effusion into the alveolo-dental membrane and about the tooth; as this material becomes organized it forms, no doubt, the medium of union between the dental and alveolar portions of that membrane. At all events, after a week or so the tooth again recedes into its socket, and as it does so becomes firmer and less sensitive to pressure; if our view be correct, the employment of a ligature or forcible retention of the tooth can only be objectionable. A very different matter, however, will be the adjustment of a plate contrived so as to protect the transplanted or replanted tooth from violence or pressure until its attachment is ensured.

Mercurial Amalgams.

By M. G. CUNNINGHAM.

AFTER twenty-five years of stubborn fight supporters of gold as a filling for decayed teeth accept the possibility of plastic material being in certain cases its superior; throughout this period I have been content to hold my peace and act entirely on my own judgment in the selection of material, as however, it seems to be the fact that a man who uses plastic filling without danger of being termed a "quack," may speak, I would, through your kind agency, convey to brother Dentists my method of preparing metallic amalgams, which has saved me much trouble and my patients a large number of teeth.

In using amalgam, the first thing we ought to take into consideration is whether that which we are using and calling by that name is such, and I venture to say that in a very large number of cases it is no amalgam at all, but a concrete admixture of solid metals with liquid mercury. In the early days, when metallic precipitate of silver was employed, perfect amalgamation was not difficult to obtain, provided the precipitate had been in the first instance properly washed and carefully stoppered, the minute sub-division of the metal and absence of oxidation aiding largely to this result. The fillings of the present day are of a totally different character, coarse in grain, and of a nature to oxidize on

even momentary contact with air, they become difficult to amalgamate with mercury, which, in itself, is a highly oxidizable metal, so that recourse is often had to a glass tube and violent agitation to produce that which is at best only a semblance of what it should be—a thoroughly homogeneous mass, that upon setting will retain a uniform texture and density proportionate to the constituents of which the fillings are composed. If, however, to the fillings and mercury be added a drop or less of sulphuric acid, either in the palm of the hand or mortar, it will be found that the metals will almost instantaneously amalgamate, whilst the oxides combining with the acid leave a residuum which, by its quantity, clearly shows what a very imperfect body could have been a so-called amalgam containing only a small portion of them. Washing in pure water at once removes all trace of acid, and a thoroughly reliable stopping can be at once produced from materials otherwise worse than useless.

Introductory Lecture to Course on Dental Mechanics.

BY DR. J. WALKER.

GENTLEMEN,—The authorities of the Dental Hospital of London have entrusted to me the heavy responsibility of lecturing on Dental Mechanics for this present Session of 1880 and 1881. I have undertaken this post with many misgivings; the subject is so wide and comprehensive, the study so important to you now, and the effect of good or bad teaching will so deeply affect your whole life, that I might well have hesitated before finally accepting the duties that will now devolve upon me.

I have taken a great interest in this Hospital and School from its early foundation, when the pupils were few, and the School and Hospital had, so to speak, to win its spurs; but in passing, I may here remark that that small class of students, then a new feature in London life, by their diligence, learning and conduct, have established throughout the country a name and reputation that you will have to perpetuate. It was by the combined efforts of the whole profession, and by the fact that its senior members

were able to point back to so many successful students of this School and Hospital, now earnest practitioners in nearly every large town of the British Isles, that the leaders of our department of Surgery were enabled to bring this special branch before the notice of Parliament, and obtain a Bill which now governs the method and extent of the classes and hospital practice of all our schools.

As your lecturer, I may perhaps without egotism mention that I was one of the six gentlemen appointed as the first Assistant Dental Surgeons to this Hospital, while it was struggling through its first year of active life. I remained at my post nearly ten years, until driven by increasing practice to relinquish the work, then, as now, carried on in your Hospital. It is the knowledge and experience I then gained, and the lessons I have since learnt as the result of treatment in private practice, that I have now to offer you—many failures and some successes, many abortive schemes, and some inventions that have stood the test of time.

My best thanks are due to the Managing Committee of this Hospital, for electing me to be the colleague of such men as Alfred Coleman, C. S. Tomes, and D. Lewis.

Gentlemen, I am fully conscious of the honour, and will do my best, if health and strength are given me, to redeem in part the loss you have sustained in the resignation of your late teacher, Mr. James Smith Turner. I know that you and your companions in hospital practice held him in high esteem. He has been a true friend to the London Dental School. He had become a ripe and experienced teacher, one fully alive to the best manner of treating his subject, passing by what the student might gain for himself from books, to dwell upon those details that a man of his experience could so fully grasp. But much as we miss him, we may yet congratulate ourselves that we have not to mourn over the death of so good and faithful a friend. He is now as actively at work in another sphere of Dental life; he is even working harder than ever in perfecting the work that has so prospered in the hands of Messrs. Tomes

and Turner. He is consolidating the Dental Act of 1878, making every effort to render the Register of 1881 as perfect as may be, and to raise the standard of Dental Education throughout Great Britain. That the number of Dental Schools may be equal to what is now demanded by students, the schools be sound in teaching power, the men elected as teachers be conscientious in their newly appointed work, that full and complete courses on each Dental subject be delivered—these are a few items of his daily work. The end and object of his endeavours is that the students in the various schools may gather wider stores of knowledge during their curriculum, so that the various examining bodies may see their way to enforce a higher standard of examination than is now enforced to obtain the L.D.S. Diploma, and the coveted power of registration.

Those gentlemen who were members of Mr. Turner's class last year will join with me in wishing him long life and energy to complete his self-imposed task.

To come to the special subject of my lecture. At the risk of provoking the well-known retort of "nothing like leather," I venture to assert that no man can ever prove himself a good Dental Surgeon unless he is a skilled artist in Dental Mechanics. To kindle a spark of my own enthusiasm for the subject, to fan that spark into a flame that shall burn brighter and brighter in your life until you lay down the file and the engraver, with a sense that you have done some good work in the world, is at once my endeavour and my duty. A painter or sculptor of eminence in his profession is frequently the leader in the fashionable world, he is feasted by the city guilds, his company is sought by the rich and noble, he has the *entrée* to the literary circles of every capital, yet the work of the artist is, at best, but to reproduce a faint imitation of nature in cold marble or on inanimate canvass. The subjects of your handiwork will be full of life and animation.

What is the necessary training for such accomplishments? A full and perfect realization of all the forms of human beauty, and of woman's beauty in particular. Why do I

dwell so much on the complete form of beauty? Because no face can be perfect in beauty, unless its features each and all are in harmony. The teeth have a peculiarly marked position in relation to the features: one missing link in the circle will attract attention and mar the harmony of an otherwise lovely face, like a false chord in music.

Projecting, discoloured, irregular, misshapen, crowded teeth, all tend to destroy symmetry. If so in the natural course of dentition, how much more in the artificial!

I would urge you all to undertake at starting a thorough study of the normal bones of the skull.

Normal bones of the face.—In the anatomical class at your general hospital you will study the bones of the face in considerable detail, but there your attention will be directed to the common or general characters of the bones. You will there have to learn the usual shape of the bones, their processes, ridges, grooves and depressions; you will be shewn the characters, not only by which you may at once recognise them, but which you may always recognise in them. I cannot too strongly urge you to master all these details.

But, Gentlemen, here we have to study these bones in a practical manner; we have to look upon them as parts of the living countenances of our patients, and as no two faces are exactly alike, a study of individual faces is necessary, as a groundwork for your success in practical mechanical dentistry, and you must study individual specimens of each of the facial bones. A careless observer of a crowd of negroes might think they were all alike, because each had a black skin, woolly hair, retreating foreheads, thick lips and white teeth. But yet a close observation would quickly tell him in truth there came behind all these coarse resemblances, minute, but noteworthy differences, differences which he would be compelled to take note of before intercourse with them would be possible. In the same way a general anatomist merely points out to you how all palates are alike, and I want to go farther and shew you with equal truth how no two are

alike, but all differ. Depend upon it, gentlemen, your usefulness and success will vary with your skill in perceiving these lesser differences which characterise individuals. The best name I can give to this study is comparative human anatomy.

Let us take some examples of what I mean. The upper jaw bone is the most complex of all the bones of the face. Looking at its central part or body we are first of all struck with the cavity in it—the antrum of Highmore. How, if you take a hundred bones, you will not be able to find two antra exactly alike, but they will differ in size, in shape, in depth, in width, and in size of their angles and inclination of each of their walls. And all these peculiarities influence the countenance, and must, therefore, be studied before you can hope to be successful in replacing the lost dental organs. The high cheek bone of the Scotchman is a very familiar example of the effect of a variation in the antrum.

The alveolar process.—The natural setting of the teeth varies also in its depth, thickness, smoothness, irregularity, and most importantly in its curve, which may be a broad, open semi-circle, or a narrow semi-ellipse. The nasal process, too, varies as much in different specimens; you will find differences in length, breadth, in the angle it forms with the body of the bone, and with the frontal bones; all these particulars modify the shape of the nose, and as I shall have to point out to you, no feature is more worthy of your careful study than the human nose in its numberless varieties. The malar process of this bone has similar varieties. Notice again the palate plate how it differs in breadth and arch, and so modifies importantly the roof of the mouth, to which a denture has been adapted. The malar bones are unlike in thickness, the size of their angles, length of their offspringing processes, and in the exact mode of articulation with neighbouring bones. See too, how frontal bones vary, in one case a broad, bold line forehead, in another overhanging, in a third narrow and

pointed, and you meet with infinite varieties between these extremes.

In passing to the nasal bones, not only must we notice how they differ in length and breadth, and the level of their edges, but that the shape of their arch is constantly varying; it may be broad and rounded, or narrow and high, even to sharpness. This depends upon the prominence forward of the bony nasal septum, the interval between the nasal processes of the upper maxilla, that is to be bridged over the breadth of the nasal bones, and the exact mode of their articulation with the upper jaw bone. Not alone does the usual arch differ thus, but most obviously on the angle it forms with the frontal lines.

From your own observation you will at once grant me that noses vary as much as families; in fact I am inclined to think that there is a good deal to be said for Mr. Shandy's philosophy of noses. The cartilages of the nose play a most important part in the shape of the organ, and demand your study as much as the bones. Each variation in the shape of the nose has a corresponding variety of upper lip, and the correlations between these two must be most carefully attended to. Granted that these differences are so numerous, you must admit that the nose must have primary importance in the estimate of the Dental Surgeon, when called upon to restore the lost Dental organs. I may remark that although I am examining noses every day of my life, I have never yet found one assuming a direct line with the other central lines of the head and face.

To arrive at a just appreciation of the effect of these bones on the lines of the face you must examine them in the articulated skeleton, not in one instance but in many—fifty or even a hundred—make weekly visits to the Museum of the Royal College of Surgeons, and there examine all the specimens of articulated skulls and skeletons, until you fully grasp the meaning of comparative human anatomy—the size, the shape, the relative acuteness of angles, the proportions of the different parts. It is this relationship,

the articulation of each bone with the other bones of the skull that is of primary importance to the Dental Surgeon.

The last bone that I shall mention to you this evening is the lower jaw, perhaps the most important of all. You will all soon be taught that it has a body, a symphysis, a ramus with its condyle, coronoid process and sigmoid notch, an alveolar process, and various tubercles, ridges, spines, grooves, and depressions. But beyond all such facts, be at pains to notice, gentlemen, how all these various parts differ in different specimens. The changes in the angle of the bone that are met with at different ages are notorious, but you will have to learn that the angle of every adult differs, that each form of countenance has its special maxillary angle, nor are the depth, thickness, curve, obliquity and relative prominence of different parts of the bone one whit more constant, and if you would succeed in fitting artificial dentures to a lower jaw, these individual peculiarities of the bone must be carefully studied.

The Dental organs will be presented in full detail by my colleague, Mr. C. S. Tomes, but I should fail in the one point of my brief sketch, if I did not refer you to the fact that no circle is found exactly corresponding with a second in the articulation of the thirty-two teeth implanted in the maxillary bones. My remarks culminate in this apparently strange contradiction, no two sets of teeth ever describe the same circle at any age. The differences in children are only slight, yet a difference exists; the older the subject, the greater the contrast visible. Yet harmony exists in the lines of the face; once acknowledge this and you will perceive the labour and investigation necessary to make you grasp the subject in its broadest sense.

Take, for instance, a patient at the age of sixty, with edentulous jaws, requesting artificial dentures to be prepared at your hands. For such mechanism to be successful in the restoration of the contour of the face, it will be necessary that it shall harmonise with the features; you must carry your perception backwards to the appearance

that this face presented when he had only attained the age of thirty: this will be the art and science expected at your hands.

Not to lengthen this my introductory lecture, by labouring to define the various types of English faces, when the bones are covered with the soft parts, I have selected a few outlines of faces such as a sculptor and painter would study. Cast your eye upward, you will see that each possesses its own characteristic and alterable features. So in life; and if you gentlemen are to be true Dental Surgeons, you must rise to the ideal of artistic mechanics. If I am to benefit you to the full bent of my wishes, you must study nature in all its variety—nature when presented to you as destroyed by premature disease and death, to be restored by your hand to its original conformation. Remember that use must follow beauty, one cannot be dissevered from the other if you would obtain results, complete in power of mastication, speech, durability, and appearance.

To win success in appearance, you must study the irregularities of the natural projection of circle, and the character of circle. If any irregularities are observed, take a model cast of the mouth, so that you can compare the natural organs whilst the artificial are in progress of arrangement; modify these irregularities, but do not efface their existence altogether. The general conformation of the Dental organs and the face must be your special study. The colour of the teeth to be selected must receive at your hands great care: compare the various tints at your disposal, ascertain if a perfect self colour, or a tinted, shaded, or stained tooth is the most pleasing; which will harmonise best with the complexion, producing a natural effect. It will be your object to disguise that the new introductions are foreign bodies, endeavour to make them appear as if they possessed life. Many colours absorb so much light that at night the appearance they present is black and death-like. Avoid such shades, select those that reflect light; in many cases the teeth should be almost

transparent. The colour of the hair, the nature of the complexion will guide you in this endeavour; hair and complexion must harmonise. A heavy, wavy head of hair, dark and massive, with bronzed face would indicate a strong shaded tooth, solid in character and non-transparent, yet a colour that will reflect rather than absorb the rays of light. A Saxon face with fair hair will strongly puzzle you at times; the pearl hued, thin and transparent teeth, as a rule, are appropriate for such a face.

When articulating the dentures, every care must be taken and much thought and study bestowed to adjust the depth and height of the superior and inferior dentures to the length and depth, to the thickness or thinness of the lips. Note and estimate the loss of structure by absorption, and supply in proportion to the loss.

The circle and projection as above alluded to will be your special study. Give hours to produce a natural expression. Propose to the patient a short walk in your operating room; if a good corridor is at your disposal, so much the better, use it. By so doing you will ascertain what, if any, old habit of contortion of features is indulged in by the patient; the character of the laugh, if the lips are raised, and how much; at times only the tips of the teeth are manifest, at others the full lip is raised exposing to view the crown of the tooth and the alveolus, even to the lower margin of the meatus of the nose. Arrangements equal to all these expressions must be adopted. The how, will be told you in future lectures.

Then, again, the smile; the smile of a Desdemona and the smile of an Iago! yet how much in a smile! Harmonise your mechanism so that the smile of the patient shall be rendered as natural and full of meaning as art can make it. The movements of the lips and tongue in speech must be as carefully studied; the eloquence of the orator and the no less eloquent prattle of a pretty woman. During the visit of your patient strike out a conversation that shall put him at his ease, and show him at his best; this will aid you in observing what is required to render

conversation easy to himself and acceptable to his hearers. Notice that the head is never carried in a perpendicular line with the body; at times it leans to the right or the left, the effect of this inclination is to lengthen in appearance the teeth of the incline. Notice also, many patients have the ungainly habit of twisting the lips out of the natural line of the head and face.

It is by attention to all these details that the results of your work will be noble, your claims to reward great, your satisfaction not less in its kind than that of the sculptor or the painter; whilst they can only charm the happy, it is yours to relieve the suffering, to alleviate pain, and even to prolong life and restore lost beauty.

Special General Meeting of the Midland Counties Branch of the British Dental Association.

A SPECIAL General Meeting of the Midland Counties Branch of the British Dental Association, was held on Wednesday, 6th October, in the Memorial Hall, Albert Square, Manchester. The President of the branch, H. Campion, Esq. (Manchester), presided, and there were also present, Messrs. S. Wormald (Treasurer), Stockport; Dr. W. H. Waite (Secretary), Liverpool; W. H. Nicol (Leeds); R. E. Stewart (Liverpool); Dr. D. A. Wormald (Bury); T. Murphy (Bolton); Q. Renshaw (Rochdale); W. H. Ridge (Stafford); T. Mahonie (Sheffield); B. Harding (Manchester); T. C. Parson (Clifton); H. Marsh (Manchester); T. Dilcock (Liverpool); D. Dopson (Liverpool); L. Matheson (Manchester); W. Dykes (Manchester); W. Headridge (Manchester); J. G. Roberts (Liverpool); W. Taylor (Batley); W. Shillinglaw (Birkenhead); J. S. Crapper (Hanley); and R. Rogers (Cheltenham).

THE MINUTES OF THE LAST MEETING.

The first business before the meeting was the reading of the minutes of the last meeting. They were taken as read.

The following letter was read by the Secretary (Dr. W. H. Waite):—

“To the Hon. Sec. of the Midland Branch of the British Dental Association.

“DEAR SIR,—I have much pleasure in informing you, that at a

meeting of the business Committee of the representative Board of the British Dental Association, held on the 1st instant, Edward Saunders, Esq., in the chair, the proposed bye-laws having been approved of, the Midland Counties Branch of the British Dental Association was formally affiliated with the Central Body.

According to the desire of the meeting, I have to convey to you our best wishes for the success of your efforts.

“Yours very truly,

“JAMES SMITH TURNER,

“*Hon. Sec., British Dental Association.*”

The report which was then read by the Secretary, was as follows:—

REPORT OF COUNCIL.

As this is a Special, and not an Ordinary General Meeting, and as the Council have only met once, there is not much upon which they can report. In accordance with the resolution adopted at the last meeting, circulars inviting practitioners in the Midland District to join the Association, were issued to every name on the Register. Up to the first of August, the Secretary had enrolled 33 members and 6 associates, and since that date there have been six applications for membership, five of which the Council have this day admitted, viz., Messrs. R. Rogers, Cheltenham; T. C. Parson, Clifton, Bristol; T. Wormald, Oldham; B. L. Harding, Manchester; W. H. Ridge, Stafford. The election of members will be by ballot, at the Council meeting following the date of application, and the vote of two-thirds of those present, will be necessary to ensure election.

A book has been provided for the entry of names of members attending the meetings, and your Council have further arranged for the admission of visitors, each member having the privilege to admit two visitors, whose names and addresses should be entered in a column provided for the purpose.

The Council have nominated Mr. Major Stewart of Liverpool, as first Vice-President of the branch, and they recommend that the Annual Meeting in April next be held in Liverpool.

An analysis of the Dentists Register shews that 1,400 names have been enrolled, of gentlemen engaged in the practice of Dentistry, in the Midland Counties.

Of these, about half are registered as practising in conjunction with pharmacy, and of these last, a considerable number—are

names not to be found in the Chemists' and Druggists' Directory. Some difficulty is encountered in attempts to verify cases of incorrect registration on account of changes of residences, alterations or errors in spelling, &c., this pertains to both the Dentists' and Chemists' Directory, so that it is not easy to identify positively in all instances. If gentlemen, who may be aware of the facts in any locality, would be at the pains to collect them, and submit them in a concise form, so as to furnish clear and trustworthy evidence of fraudulent registration, it would be of great service. Any one practising Dentistry, but who is not on the register, or anyone on the register, who can be shown not to have been in the practice of dentistry at the date of the Act, these are the two kinds of error it is desirable to expose.

It need scarcely be stated that an increase of members, both of the Central Association, and its separate branches, is absolutely necessary to enable the Executive to carry out the provisions of the Act, and there is little doubt that with moderate effort, we may all succeed in inducing others to join. The Association is destined to represent the profession in the future, and it is our business to make its representative character a living reality, and not a mere empty name.

Mr. J. S. CRAPPER (Hanley), moved the adoption of the report. It was seconded by Mr. Headridge (Manchester), and carried.

Mr. Major STEWART, of Liverpool, said that as his name had been mentioned in the report, he begged to thank them for the honour they had conferred on him by electing him Vice-President of the branch. He thanked them, on behalf of his brethren in Liverpool, for the honour the Society had conferred on them.

THE PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his address, and said:—

Gentlemen,—It is my pleasing duty in the first place to thank you, not only for the kindness you have shown in electing me to the responsible position of President of your Branch, but also for having given me the honour of being the First President of the First Branch of the British Dental Association.

I need scarcely say that the fact of our meeting here to-day as we are now doing is a subject for congratulation, and the presence of so many, and the distance some of you

have come, proves the interest you take in the great movement of the day, which has called into existence the central Society of which we now form a branch.

Every new movement is sure to give rise to more or less excitement and sometimes to great expectations, and I must, therefore, beg, first for myself, your kind forbearance for my numerous shortcomings, of which I am only too conscious; and secondly, for your society I must also ask your kind consideration, if at the first it seems to you scarcely to come up to the high standard of your anticipations, requesting you to remember that it is still in its infancy, that it has commenced its existence under difficulties, and I regret to say, not without some opposition. It will, therefore, require care and energy, not only on the part of the Executive body, but also in each individual member, to bring it to that state of maturity we all are anxious to see it attain. I feel certain from your presence here to-day that you have the interest of the Society at heart, but I venture to remind you that the simply feeling an interest in a thing is not sufficient in itself to command success. *That* is a result which requires, especially in these days, both energy and labour, and we must never forget that our future position and progress as a Society, will mainly depend on our own individual efforts, since we are each of us an individual unit, the aggregate of which units forms the Society itself.

It would be natural for you to expect in this, the first introductory paper, a history of the origin and objects of the Society, but these were so ably treated of by the worthy Secretary of the Society on his visit to Manchester, and so many of you were present at the London meetings, and so much has been already written on the subject, that it would not only be superfluous but also presumptuous for me to attempt what has already been done by others so much more competent than myself, and I am therefore deprived of what would have been an interesting topic for an address; but although the past and the present have thus been taken from me, there still remains the future;

and as I hope that in that future our Midland branch will ultimately form a not unimportant unit, I will therefore restrict what I have to say mainly to the subject of the branch itself, and in doing so must crave your kind indulgence for the many imperfections in my efforts, urging as my excuse the little time that numerous professional and other engagements leave at my disposal.

Here, I think, we may congratulate ourselves, that we exist as a branch of the British Dental Association and not as an independent Society, for I am sure we all feel that the scheme for the elevation of our profession to its proper position, which that Society has been formed to promote, has been most judiciously planned, and has thus far been most efficiently carried out—a scheme, which whilst it in no way discourages the attainment of the higher qualification of full membership of the Royal College of Surgeons, in those who are anxious to distinguish themselves, and possess the means and opportunity for so doing, provides an efficient education in all those scientific and practical subjects which it is necessary for a Dentist to know, and by means of the Dental Diploma, affords the public a guarantee that the possessor of that diploma has passed through a curriculum of such a standard as fully to qualify him for the practice of the branch of surgery which he professes. Nor must we allow to pass unnoticed the utter unselfishness of its promoters, who laboured out of pure love for their profession, knowing that they could never expect to see the good result of their labours in their lifetime, unlike the man who is said to have remarked that he never could see the good posterity had done for him that he need trouble himself about posterity: and as was the case with many of those grand memorials of the loving zeal and devotion of our ancestors, those noble cathedrals with which so many parts of our country are adorned, one generation was satisfied if they were able to lay the foundations and were permitted to see some portion of the superstructure erected during their lifetime, so in like manner, we must wait and not be discouraged if we are unable to see the full develop-

ment of the present movement, but should consider it a privilege to be permitted to assist in however humble a degree, in taking part in what we fondly and reasonably hope will prove the formation of a grand future for our branch of surgery.

To our Secretary and Treasurer are due, I believe, the credit of having originated the branch, and I take this opportunity of saying that I am unable in any way to claim a portion of that credit for myself, for I gather from a letter in one of the journals, that I was not only believed to have been one of the promoters, but that I was thought to have been guilty of an act of discourtesy in what I had done, or rather in what I had not done. I knew nothing of the project till I received a printed circular inviting my co-operation, and it was not till after the lapse of many weeks that I found myself able to join in the scheme. The promoters worked hard in drafting the bye-laws and arranging the other necessary preliminaries, but I am sure I may say for them that they feel amply rewarded by seeing their pet child, over which they have laboured so long, fully recognised as a legitimate offspring of the British Dental Association.

The objects of the branch, you see by the bye-laws, are fourfold:—

1. To render assistance, as far as possible, in carrying out the provisions of the Dentists Act.
2. The general consideration of subjects affecting the interests of the profession.
3. The reading and discussion of papers on Dental Surgery and Mechanics.
4. The cultivation of a generous professional spirit amongst practitioners throughout the district.

With respect to the first object, I think the purport of the Act is so clear that it requires but few remarks from me. It is impossible to draw any definite line where the help of an unqualified person must cease and that of the duly qualified practitioner commence. Any one who dresses a wound or a bruise, or reduces a dislocation, prac-

tises surgery, and no one could for a moment imagine that a law would ever be passed to prevent his doing so; and in like manner, we could not expect that the legislature would ever allow the drawing of a tooth or any other similar operation to be made a penal action, although the person so doing may be said to be practising Dentistry; but as soon as any one endeavours to make the public believe he is a qualified practitioner, by assuming the title of Dentist or any other name implying the possession of the Dental diploma, so soon he becomes amenable to the law; the act thus guaranteeing to the public, that *for the future*, any one who claims the professional title shall of necessity have obtained the necessary qualification. Any person, or any number of persons, who may wish to put the act in force in any particular case can do so, but before taking action it will be necessary to obtain the sanction of the Medical Council. This at first sight may seem to be an unnecessary precaution, yet I think on further consideration you will admit that it is a very wise provision, as it entirely prevents the possibility of any one being proceeded against from personal pique or any other improper motive; and if in any case it is thought desirable that a person's name should be removed from the register, all that is necessary is to collect sufficient *reliable* evidence, and transmit it to the central board in London, who will bring the matter before the Medical Council, the only body by whom such action can be taken. And in cases where these proceedings may be necessary, I am sure they can be carried out without earning for ourselves the opprobrium of acting as spies or professional police, which some have already been willing to assign to us.

With regard to the second object of the Society, we must all feel that the interests of the profession will at times require the careful consideration of its members, and necessitate the existence of some organised body which shall be able to act with the authority of the bulk of its members, and for this, no better scheme can be devised than the one we are now so much interested in—the for-

mation of a central society, with recognised branches in the more distant parts of the country, constituting an organisation by which the feeling of the majority of the profession may at any time be ascertained on any question that may arise bearing on the well being of the profession.

In the third object, "The reading and discussion of papers on Dental Surgery and Mechanics," the surgery you will notice is placed first, and justly so, as the higher branch; though in early times, and I fear even to a more recent date, the order in importance was more frequently reversed in practice. The mere mechanical calling of former times—for in its infancy Dentistry was little else—has now been developed into a profession and gained admission within the sacred portals of the College in Lincoln's Inn Fields, and it is for the present and future generations to prove by the exercise of their highest mental as well as mechanical faculties, that the profession is worthy of the position which has been accorded to it.

It has been noticed by those who most frequently attend the meetings of our speciality, that papers on mechanical subjects are more easily procured, and often prove more attractive than those on surgical subjects, but this will no doubt become less as the educational facilities of the present day are brought to bear more and more on the whole body of the profession. Surely the preservation of the natural organs is of far more importance and value to the patient than the substitution of others, however efficiently supplied:

What should we think of the surgeon who allowed himself to be deterred from directing all his energies to the preservation and restoration to health, of a diseased or injured limb, by the thought that an artificial substitute could be provided for it. No! No! Whatever our politics may be let our surgery be conservative. Far be it from me to appear to undervalue any branch of my profession, for no one can have been long in practice without having experienced the well earned gratification derived from noticing the relief from pain, and in many instances the

perfect restoration to health, that follows the substitution of efficient members in the place of useless and diseased ones; but far greater is the credit and higher the appreciation of the patient, when the diseased natural organs themselves can be preserved and restored to a state of efficiency; and how great are the facilities for so doing in the present day, compared with the early reminiscences of many of our older brethren. All of us who were fortunate enough to hear the interesting paper read before the General Meeting of the Society in August last, must have been forcibly struck with the contrast between the paucity and quality of the instruments there mentioned, and the appliances of the present day. What would have been the feelings—I might almost say the bewilderment of the practitioner therein described, could he have been transported into one of the large dépôts with which we are so familiar. The numerous and beautifully adapted instruments for the variety of operations unknown in those days. The admirably adjusted forces for each form of tooth, the endless variety of excavators and pluggers, the wonderfully delicate nerve extractors, the rubber dam and its adjustments, the saliva pump, the electric mallet, the improvement in our chairs, and that greatest of all boons, both to patient and operator, the Morrison engine, the name of the inventor of which valuable instrument, ought to be indelibly inscribed in letters of gold in the Archives of Dentistry, to say nothing of the application of vulcanite and celluloid, and the many ingenious appliances for the workshop. Surely these should lead us to value the benefits we enjoy, and teach us to strive to use them to the best of our ability, not influenced by the thought of self-glorification in attempting to surpass all others, in the performance of this or that brilliant operation, but ever remembering that the ultimate aim of all our efforts should be the increased amount of good which we are thereby enabled to accomplish for the benefit of our suffering fellow-creatures.

Although the *Transactions* of the Odontological Society contain a very voluminous and valuable collection of

papers bearing on one speciality, there still remain numerous subjects and modes of operating which may be made productive of profitable discussion. Such are the replantation of teeth now attracting so much attention, the erosion of the surfaces of the teeth of which so little is known in the present day. The various improvements in the materials for filling, and amongst a variety of subjects, far too numerous to be mentioned here, the startling announcement of the so-called New Departure Creed.

As this last is a subject which I think we all feel greatly interested in, and also bears on the branch of Dentistry which we are now considering, I will venture a few remarks on some of the articles of the accepted and new departure creeds as tabulated in the *Dental Cosmos*.

I am not aware that the so-called accepted creed has been the recognised standard of practice in this country. The doctrine that gold, and nothing but gold, should be used for permanent fillings, has certainly been extensively promulgated by those of our Transatlantic brethren who have settled in this country; and I cannot but look upon this new departure, as the natural reaction which might be expected to follow the over anxiety to build up large adhesive gold fillings, on fragments of weak and often disorganized teeth, totally unsuited for such an operation; but until I can see some stronger reason than has been hitherto adduced by the advocates of this new departure, I must, in any case suitable for a good gold filling, confess my unwillingness to abandon for any other of the fillings now in use, a material that we know from past experience is capable, when judiciously applied, of preserving and restoring to a state of efficiency, in some cases for a period of twenty years or even for a much longer time, teeth which otherwise would have been lost in about the same number of months. For the efficient use of this material much must of course depend on the manipulative ability of the operator, but it has often seemed to me a matter of doubt, whether, in the case of those large

adhesive gold fillings, the patient has received an equivalent for the tedious and necessarily expensive operation that has been undergone.

The choice between contour fillings and separation of the teeth in the case of approximal cavities, must, I think, depend in a measure on the aptitude and judgment of the operator, since the two plans when successfully performed, may be made equally efficient. The latter however—separation—seems to afford greater facilities for operating, and also for cleanliness in those patients who are unable or unwilling to devote the time and attention necessary for that object.

The professed incompatibility of gold as a filling material with tooth bone, seems to me to be at variance with the frequent success which we all must have experienced, in the use of that filling in cavities on the labial surface of the roots of the upper incisors. I mention this particular position as being easy of access for operating, and also as being one where the enamel, tooth bone, gold, and saliva, are in constant contact with each other. In those cases where the success of the operation has not equalled our expectations, in endeavouring to estimate the probable incompatibility of the filling material as a cause of failure, it is, I think, necessary to consider whether in the ordinary operation for filling, the whole of the diseased dentine has been so thoroughly removed, as to admit of its proving a satisfactory test case, for the microscope reveals to us a change in the dentine in the sides of a decayed cavity, even when it appears sound to the eye, and also to the feel of the instrument; and in those portions of the margin of the cavity which we undercut for the retention of the filling, we have the dentine not only denuded of its nutrient covering, the periosteum, but also deprived of its nutrition from the pulp by the severance of the tubes of the dentine, and the intervention of the filling material, and in this deteriorated condition, in all probability still exposed to the continuous action of the same deleterious influences (whatever they

may have been) which first caused the decay; and I cannot but think that the failure when it occurs, is in a greater measure due to the above named causes, rather than to the incompatibility of the gold with the tooth bone; but with all the success that has attended the use of gold for so many years, we must still, I am sure, be willing to admit the want of a perfect plastic filling, which shall be able to withstand the friction of mastication, and also the deleterious action of the fluids of the mouth.

The dictum that, "a tooth that can be so treated as to be satisfactorily filled with anything, is worth filling," is one, I think, that all who value conservative surgery must readily agree with.

That "unskilful and unscrupulous Dentists fill with tin covered with gold, thereby causing galvanic action, pulpitis, death of the pulp, abscess, and loss of the tooth," has certainly not been an accepted creed in this country, for I was early taught the use of this material both alone, and in combination with gold, when I first commenced the study of my profession with Mr. Sheffield, of Exeter, and long experience, and the retention of a tin filling in my own mouth, in a perfect condition for over five-and-twenty years, has fully proved to me the value of this metal. When used in combination with gold, and exposed to contact with the fluids of the mouth, it certainly undergoes a chemical change, becoming nearly black in colour, but without staining the tooth as some amalgams do; it also becomes harder, and cuts harsh like an amalgam filling, but the change does not appear to cause any alteration in its bulk, or in any respect to interfere with its efficiency as a filling, nor have I ever found it produce any of the evils suggested in the creed, and I cannot but think that it would be more used, were it not for the universal prejudice that exists in the mind of the public in favour of gold, partly arising from the magical charm which resides in the word gold, and partly from the nothing but gold theory (if I may so call it), which has been so largely spread by our American brethren.

That "a filling may be the best known for a tooth and yet leak badly," seems a simple admission that in some cases bad *is* the best that we can do for them. If experience has taught us anything, it certainly has proved that it is the leak which does the mischief; and as in warfare no fortress is considered stronger than its weakest part, so is it with a tooth that is filled. A small leaking point will soon undermine the filling, and prove its ruin.

The statement that "*gutta-percha properly used* is the *most permanent* filling material we possess," must make us wish to know the meaning of the words, "*properly used*," for the rapidity with which it wears away, in any position in which it is subjected to friction in mastication, seems to me to prevent the possibility of its ever being permanent.

The force of the article which says that "a poor gutta-percha filling, *in its proper place*, is better than a good gold one," seems to depend on the question as to what is the proper place for a gutta-percha filling: surely not the place where we can insert a good gold plug, if by "good," is meant one that is not only solid, but also sufficiently tight to exclude all moisture from the cavity.

It certainly is rather startling to hear from the country from which have come the severest criticisms on the use and the users of amalgam fillings, the admission that "amalgam per se, is an excellent filling material." With amalgams, as with the other plastic materials, a *perfect* filling of its kind has yet to be discovered, for a measure of uncertainty seems to exist in all of them; but as a proof that an amalgam *may* make a good useful filling, I can say that I have seen more than one apparently in a perfect condition after thirty years' wear, and I cannot but think that much of the discredit attaching to its use, arises from its being the filling we naturally have recourse to in all cases of doubt and difficulty.

That "the use of plastic filling material tends to lower the standard of Dentistry, thereby diminishing its sphere of usefulness," is scarcely a fair way of stating the matter. The indiscriminate use of them would certainly do so,

but the judicious selection of them in cases unsuited for the use of gold, need not necessarily interfere with the acquirement of the manipulative ability necessary for making good gold fillings, nor is it desirable that it should do so, as the power of manipulation required for the successful use of gold, must tend to perfect the powers of the operator in the use of all plastic materials, and must thus extend the sphere of usefulness of that Dentistry which has for its standard of excellency, ability to save teeth.

Time has only permitted me very briefly to notice some portions of this new creed, to show that it contains much that might be productive of profitable discussion, but I think from what has been said, we may reasonably conclude that each material has its own particular advantages, and that until we are in possession of a filling suitable for universal application, a judicious selection is necessary on the part of the operator in each particular case.

The fourth, and not the least important object of the society is "the cultivation of a generous professional spirit amongst practitioners throughout the district," and to this I hope may be added throughout the whole body of the profession; for the knowledge that we are branches of one central society, should lead to a feeling of fellowship not only with the members of the parent society, but also with the members of the other branches, and surely it is not too much to hope, that with the extension of the Society and its branches, and the feeling of professional brotherhood thereby engendered, we may see the gradual increase of that Christian charity which "thinketh no evil," and which would scorn all attempts at self-exaltation, by the disparagement of the efforts and qualifications of a fellow practitioner, which I fear has been greatly encouraged by the isolation that has so long existed in our speciality.

Nor must we omit to notice the great benefit to be derived from the friendly discussion of subjects in which we are all mutually interested, not only to the profession at large, but also to each one individually, for which of us

in his early days has not felt the wish that he had thought of this or that other mode of treatment in some particular case; and what more likely to impress new ideas on the memory, or, to use a familiar expression, make us "have them at our fingers' ends" (the place where surely they are wanted when operating), than the friendly discussion of them which it is one of the objects of our Society to encourage?

The President of the Western branch has held out to us the hand of fellowship, which I am sure I need not ask your permission to be allowed to reciprocate most fully—not only in the wish for their future prosperity, but also in the assurance that any of their members who may have an opportunity of attending our meetings, will at all times receive that cordial welcome which it should be our greatest pleasure to extend to all the members of our Society and its branches, thus realizing one of the great objects of our Association, and proving not only by our words, but also by our actions, that we are anxious to encourage that professional intercourse which must tend not only to our mutual benefit, but also to that of the community at large; and if, as their President remarked, it is a pleasure to them to think that in the formation of our branch we show "the benefits resulting from the good example they have set us," it is no less a subject of congratulation to us to know that they have at last recognised the good which is likely to accrue, both to themselves and to the profession generally, by following our example, and forming themselves into a local branch of the British Dental Association.

And now, fearing that I have already trespassed too long on your time and forbearance, it only remains for me to thank you for the kind reception you have accorded me, and to express the belief that, although the barque which we have so successfully launched will probably meet with the usual amount of storms and difficulties, still the old proverbial "long pull and a strong pull and a pull all together," in which you are so able and willing to join,

will carry it securely through the many undercurrents and quicksands which may threaten it on its course, and secure what we all so ardently hope for—a useful, as well as a long and prosperous career, for the Midland Branch of the British Dental Association.

Mr. MAHONIE (Sheffield), moved a vote of thanks to the President for his able and eloquent address, and in doing so, said that when the Association was weak, Mr. Campion had come to their aid in a very courteous manner, and they were now asked to give him their heartiest thanks for the paper which they had just heard read. The paper was one which would last more than a year. It was very instructive, and he (Mr. Mahonie) thought that Mr. Campion was eminently capable of giving them instructions in the way of Dental Reform. He moved “That the best thanks of this meeting be given to the President of the Midland Counties Branch of the British Dental Association, for the able and eloquent paper which he had just read.”

Mr. W. H. Nicol (Leeds), seconded the motion in suitable terms.

Dr. W. H. Waite in supporting the motion, said that it was a very great privilege for them to have such a President as they had in Mr. Campion. His wisdom had been of great service in superintending the efforts which the Executive have had to put forth. They had been delighted that morning with the interesting and instructive address which Mr. Campion had given them, but most of all with the very high and generous tone that breathed throughout the whole of the address, and he (Dr. Waite) thought Mr. Campion had struck a key-note which, when the address came to be printed, would vibrate not only throughout the Midland Counties of England, but through every country where the Dental profession was carried on. The motion was carried with much enthusiasm, and the meeting then adjourned till the afternoon.

The Members assembled in the Memorial Hall at 2.30 p.m., Mr. Campion in the chair.

The PRESIDENT stated that some idea had been started of bringing specimens to the meeting, and in order to show what curiosities might be casually collected, he offered a few specimens to the notice of the Members.

Mr. ROFF KING, Shrewsbury, then read a paper on "Modelling and Modelling Composition."

Mr. J. S. CRAPPER (Hanley) read a paper, entitled "New Ideas in Mechanical Dentistry," and exhibited specimens of teeth which had been manufactured by a new process and sent to him to exhibit.

The SECRETARY read a paper received from Mr. F. Richardson, Derby—"Has Vaccination any Effect on the Degeneration of the Teeth?"

Mr. H. MARSH (Manchester) read a paper on the "Use of Nitrous Oxide Gas."

Mr. MURPHY desired to ask the Chairman whether Licentiates in Dental Surgery were legally responsible if a patient expired whilst under the influence of the nitrous oxide gas, or subsequently to the administration.

In the discussion which followed, there appeared to be a unanimous opinion amongst those present that Licentiates were not responsible, but that it would be impossible to define such a position.

The SECRETARY read a letter from Mr. Kyan of Preston, in which that gentleman expressed his regret at his inability to be present, and hoped the Members would have a successful meeting.

Mr. RENSHAW moved a vote of thanks to those gentlemen who had furnished them with such interesting and instructive papers.

Dr. D. A. WORMALD, in seconding the resolution, said they could, with a little energy and support, make that Society very successful, and as a representative body on behalf of their profession in the Midland Counties, they could maintain such a position that it would become an honour to belong to it.

The CHAIRMAN remarked that it was no light work to prepare such papers as they had heard read; much time and trouble must have been spent in the digest of the various subjects. He gave the hearty thanks of the meeting to the contributors of those papers.

The resolution was carried unanimously.

Mr. MAJOR STEWART proposed a vote of thanks to Mr. Campion for presiding.

Mr. KING seconded the motion, which was carried unanimously.

The CHAIRMAN (Mr. Campion) returned his best thanks for the kind reception and assistance the Members had rendered him whilst in the chair.

THE DINNER.

In the evening a dinner was held at the Queen's Hotel, Mr. Campion presiding, Mr. Major Stewart in the vice-chair.

The CHAIRMAN proposed the health of "The Queen and the rest of the Royal Family."

Mr. MAHONIE then gave a recitation from Shakespeare.

Mr. Major STEWART in rising to propose the toast of the President of the branch said—It is my pleasing duty as your Vice-President to propose this toast. I find our worthy Chairman took his M.R.C.S. degree in 1856, I therefore regard him as the father of the profession in this district of England; those who were present this morning heard his inaugural address. Those words were words of wisdom, and were addressed not only to the older, but also to the younger members of our Branch Association. His address will be read with pleasure by members of our profession in England and America. With regard to the chairmanship of this branch, I think it would have been wise if Mr. Campion had been elected for three years, until we were more consolidated. I am glad to see so many members from this district present this evening, and will now conclude by asking you to drink a bumper to the long life and successful career of our Chairman. The toast was accepted most loyally.

The CHAIRMAN in responding said, gentlemen, you must have listened to my voice sufficiently to-day—this is my last appearance before you this session. Our Secretary has promised to allow me to enjoy myself, *otium cum dignitate*, after I have returned my best thanks. It is with great diffidence I respond to this toast, I really feel the difficulty increased tenfold by the kind manner in which you, sir, have proposed, and my friends accepted this toast. One word in regard to sub-branches—I can see no reason why such large towns as Liverpool and Manchester should not establish sub-branches; frequent meetings, say once a month, could be held for an exchange of thoughts and methods of operation in our department of Surgery, in which we are all interested; so constituted, they would be private societies, to which any member of our branch might be admitted. The great event of the next year will be the meeting of the International Medical Congress, held in London during August. This Congress has held its meetings every alternate year for the last twelve years. The London members of the Medical profession have taken it up very warmly,

and are making preparations, which must result in giving the Congress such a reception as will be worthy of our capital.

The President of the Dental section is Mr. Edwin Saunders, whilst the Vice-Presidents are Mr. John Tomes, and Mr. Spence Bate, Mr. C. S. Tomes acts as Secretary, to all of whom we are much indebted for their untiring efforts in raising our department of Surgery to its present position. I trust that our branch will be well represented at this Congress.

Another subject I will broach is the establishment of a Dental School in Manchester. If such a school is formed it should be in concert with the Manchester Medical School at the New Victoria University. When the charter was first granted for the formation of a university, a medical school was not included, but there appears very little doubt that in the course of time such school will be established ; let us then wait patiently until we can thoroughly and efficiently carry out such an undertaking.

I am sorry I cannot introduce you to a Dental hospital ; this is to be deplored, more especially as we took a prominent part in Dental reform for the good of Dental practitioners. If younger and more able men will commence the work, they shall receive my heartiest support and co-operation. I must now conclude by expressing regret that I have not the gift of speech, that I might explain to you the warm feelings I have in regard to the reception you have given me, and the kind manner in which you have drunk my health.

Dr. D. A. WORMALD sang "The Spinning Wheel."

Dr. WORMALD, in proposing "The British Dental Association," said : Mr. President, and gentlemen, this toast is one, I am sure, you will drink with the utmost cordiality. Those who sit round this board, and have taken a part during the past few years in the politics of our profession, must experience a feeling of congratulation that we are able to meet to-night, and realize the fact that at last we occupy a recognized position. We need re-organization, and we need a central body, and the British Dental Association is that recognized body, and demands our support and assistance. Well, join that Association, and do what you can to lift up the profession from the low level in which we have been placed, and raise it to a much higher level. We need, as your President so kindly put it this afternoon, a higher professional tone, and a more generous feeling towards our brethren ; and that can only be obtained by coming more and more in contact with each other, and

through the influence of such an organization as this we are met to commence, which will assist in placing our profession in a position which it should long ago have occupied. Many of those who are now in our ranks may not see the full result of our labours, but depend upon this, that our labours will be recognised in the great difference which will show itself more and more in this country between those who are worthily following their calling, and those who indulge in non-professional practices. The British Dental Association will become strong and durable, and then we may be sure that under the wisdom and the guidance of those who have piloted our steps so far, we may safely follow them wherever they lead, and so lay a foundation upon which the rising generation may build up their professional career, and help to raise the status of our profession. That profession is worthy of all the time and attention that any honourable gentleman will give it, if he will follow his calling worthily, and serving the interests of a suffering public. In connection with this toast, Mr. Chairman, my friend Dr. Waite, will have the pleasure of responding, and I have the greatest pleasure in coupling his name with it.

Dr. WAITE responding, said, Mr. President, Mr. Vice-President, and gentlemen, it is to me both a pleasure and a pride to be permitted to respond to the toast of the "British Dental Association." I am not much of a believer in post-prandial oratory. The period of replenishment for the physical energies, should be a period of repose for the energies intellectual, or perhaps better still, a time of refreshment, by agreeable and amusing conversation. That Englishmen should be fond of dining together, is natural and characteristic; that they should be almost equally prone to after dinner speechifying is somewhat surprising. It is well, however, when the usages imposed by custom can be observed, without making a too serious demand upon our drowsy powers, and fortunately we have a condition of things existing at the present time which, when fairly estimated, is calculated to awaken agreeable reflections, and inspire us with salutary hopes.

Within the short space of five years, events have occurred with astonishing rapidity, that have substantially and permanently altered the position of the Dental profession, not alone in its relation to the general public, but also in its internal organisation, and the mutual relation of individuals to the whole body. These events may be classified in three distinct items, and in each we

shall find elements of progress largely preponderating. First of all, most of you will recall the feeling which prevailed when the idea of obtaining an Act of Parliament was invoked at the Manchester meeting of 1875—it was not regarded exactly as an utopian idea, but certainly we felt it to be something almost too good to hope for. Well, in less than three years from that time the Dentists Act was passed, and now, after two years experience and consideration, we are able to discover what it is we have obtained, though it is all too soon as yet, to realise (except very partially) the practical benefits the Act is destined to confer. This much, however, we know. We have a legal status. We have legal rights and privileges. We are admitted to the fellowship of the honourable and learned professions. These three points are assured, and we should see to it, that we interpose no barrier of professional character or conduct between ourselves and the privileges our Act bestows. We know, moreover, that there are secured for those who will come after us, more substantial benefits of education, of practice, of public appreciation, such as none of us have been permitted to enjoy. This is the characteristic feature of the Dentists Act. Its noblest provisions are for posterity. No change, nor circumstance, can deprive any who have assisted in passing this Act, of the pure satisfaction of knowing that they have helped to hand on the profession of Dental Surgery in a far better condition than that in which they received it. Many have contributed in various ways, whose share in the work will be forgotten, but the work remains. Identified with the whole of the movement, the names of Tomes and Turner will be preserved and revered for many, many years, yet withal the abundant reasons for personal gratification which those gentlemen have, I am sure they rejoice a thousand fold more over the results achieved, than they do at any honour or advantage accruing to themselves. Take it as it stands, acknowledging its few imperfections, and recognising its many decided benefits, we have as good an Act as we had any right to expect, and as good as it was possible for us to get.

One of the hindrances to Dental advancement has hitherto been the scarcity of educational facilities, and the small proportion of practitioners who possessed any Dental qualification. At the time to which reference has already been made, there were only some 300 gentlemen in the whole of Great Britain who held a Dental diploma. There was only one licensing body in the country

which granted Dental certificates. Now we have 630 gentlemen holding recognised Dental qualifications, viz., of London about 400, Edinburgh 16, Dublin 180, Glasgow 33, and the three last mentioned bodies are offering to gentlemen in practice, the opportunity of examination, *sine curriculo*, upon thoroughly reasonable and accessible terms. Not only so, the Colleges of Ireland and Scotland have caused their certificates to possess a peculiar value, in the careful provision they have made, for preventing unprofessional practices on the part of their licentiates.

I am certainly astonished that the number of practitioners who have already availed themselves of these facilities is so small. I know that this matter of obtaining a Qualification is regarded variously by different persons, but nothing is more certain than the growing tendency toward accredited qualification as indispensable to professional status; the public are rapidly becoming aware (and it is our business to educate the public in this matter) that the operations of Dental Surgery cannot be safely entrusted to uneducated heads or hands, and as a guarantee of something like the necessary knowledge and skill, the public are beginning to understand the value of a purely Dental Qualification. The larger the number of Licentiates the more quickly the public will be taught, and ere long the unqualified Dentist will become a mere historic fact.

The all important feature of recent progress is the British Dental Association. The Dental body has been afflicted with inherent weakness through the want of organisation, a weakness that paralyses, and at the same time, a weakness endowed with remarkable power, the power of successfully defeating efforts toward general reformation. So long as we were isolated and detached it is not wonderful that we were selfish and afraid of one another, but a new era has dawned. We have an Association to which all are eligible, where all can meet on the common ground of professional brotherhood and intercourse. The control of the Association, embracing the future welfare of the whole body, is committed to a Board constituted on a representative basis. None need be excluded from participation, save by their own poverty of professional spirit, a poverty exhibited alike by persistent recourse to unprofessional practice, and by selfish indifference to professional politics. There may be a kind of superiority in having a large practice, or in holding a high scientific position, but unless I am greatly mistaken the true superiority is that which overleaps all

selfish considerations, and delights in consecrating whatever power or position we may have to the elevation and improvement of the whole profession. Thank God we have men who have been inspired with a large measure of true professional spirit. Men who could think for themselves and hold their own opinions, but who at the same time have been large-hearted enough to merge minor differences in the pursuit of one grand object. Such men as Edwin Saunders, John Tomes, J. Smith-Turner, T. A. Rogers, A. Coleman, Dr. Walker, our esteemed President, and many others, stand forth as examples of *true* as distinct from *sham* superiority.

The facilities now afforded by our separate branches have removed the excuse so often urged when all the meetings took place in London, and there is practically no obstacle to our speedy improvement. We possess advantages of a political nature quite equal to those existing in any kindred profession.

These are the bare facts of the present time; they furnish material for much thankfulness and for cheerful anticipation. They are the foundation on which our future must be erected. What that future is to be depends on what we mean to be. The scaffolding is up, the materials are ready. Willing hearts and willing hands are needed to complete the edifice. There is a sublime principle working through the whole human family, the operation of which no individual can withstand. It was formulated by the Founder of the grandest system the world has ever known, and this is the formula—

“Whosoever would be chief among you, let him be your servant.”

Mr. MAHONIE, in proposing the toast of “Sir John Lubbock, and the promoters of the Dentists Act,” said:—No words of mine can add additional lustre to the names—Sir John Lubbock, Mr. John Tomes, Mr. James Smith Turner. These men have earned a name for themselves which neither crayons nor oils—not even if they were placed in cathedral aisles—could add more; these men have laboured much—laboured hard; I beg to propose their health.

Captain ROGERS, in responding, spoke of the great triumph Sir John Lubbock had accomplished in passing Bills connected with science, this Parliament. He had great pleasure in thanking them for the hearty manner in which they had received the names of these gentlemen connected with Dental Reform.

Mr T MURPHY in proposing the “Manchester School of

Medicine" said:—I have had put into my hands a toast to propose, which is so intimately connected with our branch of the profession, that it will require no eulogy on my part for it to be received with acclamation, I mean the Manchester Royal School of Medicine. Perhaps it will not be out of place if I give you a short outline of its history. It was founded by the late Mr. T. Turner in the year 1824; it was known for many years as the Pine Street School. In 1850 a second school was established, and being connected as I then was with a hospital in this city, I can well remember the jealousy there was about the subjects that were sent out; first one school and then another complaining that they were not getting their fair share, and I must admit that the leaning was towards the old school, which I think got, on the whole, rather more than its share. In 1858 the founders of the rival schools came to the conclusion that the interests of the students would be best promoted by an amalgamation, forgetting their differences and working together for the common weal. In this way, from the Union of the Pine Street and Chatham Street Schools, *that* school arose which has been long known as the Manchester School of Medicine. For sixteen years the work was carried on in Faulkden Street with difficulty both with regard to accommodation and light. About the year 1872, a meeting of the Owen's College authorities met the leading Members of the medical staff, and it was agreed that it would be for the welfare of the School if it were handed over to the Owen's College authorities. The result has been the erection of one of the finest Medical Schools in the kingdom, replete with everything necessary for the study of medicine. The course of instruction not only enables students to qualify for College and Hall, but affords the more aspiring every facility for qualifying themselves for the higher distinctions of their profession. When I mention the names of Turner, Jordan, Wilson, Smith, Wilkinson, Bradley, Southam, and last, but not least, the celebrated Dalton, and others, who have gone; Gamgee, Watson, Williamson, Roscoe, Roberts, Morgan, Lund, Simpson, Ransome, and other able men, who are at present at the helm, can there be a doubt about the quality of the education given? and, in conclusion, is it too much to ask that before long we should have established in this city, and in connection with the Victoria University, a Dental School where we can send our sons to receive at the hands of these able men the necessary training to fit them for the practice of Dentistry.

MR. MARSH returned thanks for the toast; he trusted some day Mr. Campion would be appointed Consulting Dental Surgeon to the Manchester School of Medicine.

Dr. WAITE proposed "Success to the Western Counties Association," coupling with it the name of Mr. J. C. Parson, of Clifton.

Mr. PARSON having responded, the proceedings terminated.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

MR. SEWILL ON DENTAL CARIES.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIRS,—While thanking you for your courteous notice of my contribution to the second edition of Dr. Fothergill's work, permit me to point out that my contribution was not intended as an exhaustive discussion of the subject of dental caries. I was asked to write only upon the "Hygiene of the Teeth," and to indicate to the medical practitioner the means available for the prevention of dental disease. In accordance with the scheme of the work it was requisite to explain the etiology and pathology of caries in order to make clear the *rationale* of treatment, and therefore, with brevity consistent with the limited space at my disposal, I did so, adopting mainly what is termed the "chemical" theory of the disease. This view, as you remark, is certainly "theoretical," but I venture to say it approaches as nearly to demonstration as need be. I certainly do not hesitate to accept it as fact, and I felt more bound to adopt it in the present instance, seeing, at least, that upon this theory both the prophylaxis of caries as well as our treatment of the disease seem based.

I should be glad to see a discussion of the subject started in your columns or at the Odontological Society.

6, Wimpole Street,
September 30th, 1880.

Yours faithfully,
HENRY SEWILL.

Birmingham Dental Hospital, Broad Street.

Consulting Physician.—James Sawyer, M.D., Lond., M.R.C.P., Physician to the Queen's Hospital.

Consulting Surgeon.—James West, F.R.C.S., Senior Surgeon to the Queen's Hospital.

Consulting Dentists.—Thomas H. English, Adams Parkes, L.D.S.Eng.

Surgeon Chloroformist.—F. H. Maberley, M.R.C.S.

Dental Surgeons.—Charles Sims, L.D.S.Eng., Wednesdays;
H. Breward Neale, L.D.S.I., Tuesdays and Thursdays; F. H.
Batchelor, L.D.S.I., Mondays and Fridays; F. E. Huxley,
M.R.C.S.Eng., L.D.S. Edin.; Saturdays.

Hon. Treasurer.—W. Udal, Esq.

Bankers.—Lloyd's Banking Company, High Street.

Hon. Sec.—Allen Edwards, 82, New Street.

DENTAL HOSPITAL OF EXETER.

CASES TREATED FROM JUNE 14TH TO SEPTEMBER 30TH, 1880.

Extractions.	{ Children under 14	...	...	...	309
	{ Adults	...	...	...	641
	{ Under Nitrous Oxide and Ether	...	...	...	29
Gold Stoppings	...	...	...	...	45
White Foil ditto	...	...	...	...	37
Plastic ditto	...	...	...	...	127
Miscellaneous cases	...	...	...	...	129
Total					1,317

HENRY BROWNE-MASON,
Hon. Sec.

White Nickel Bronze.

THE pure white tint of nickel, its inoxidisability, and, therefore, the ease with which it is kept clean, have caused it to come into general use for metal fittings, especially those of vessels and carriages, as well as for the bright parts of engines and machines. But, on account of the relatively high price hitherto obtained by nickel, it has been employed chiefly in the state of electro-deposit.

Nickel-plating is effected by two processes, one hot and the other cold. In the former a solution of sulphate of nickel is used in an enamel cast-iron trough. This is the more rapid method, but its results are not so satisfactory as in the cold process. The latter is effected with a bath of double sulphate of nickel and ammonia, the articles to be nickelised being suspended by a platinum wire attached to the positive pole of the battery, while a plate of pure nickel, to restore the metal to the bath, is put in connection with the negative pole. The nickelisation thus produced, though it requires a longer time than the other process is finer and more durable.

There are, however, several objections to nickel-plating. The process is injurious to the workmen engaged in it. The thin coating of nickel is liable to peel off, and in the case of parts exposed to wear, or even with

cleanings, in course of time, the nickel becomes so worn off at the edges as to expose the base metal beneath. Besides, nickelisation does not entirely prevent the oxidisation of steel and iron.

A French Company, La Société Française Anonyme de Nickel, briefly referred to in connection with the Applied Science Exhibition, Paris, are endeavouring to supersede the nickelisation of brass and copper by the use of solid nickel bronze, which is thus obtained. The ore, *garnierite*, extensive deposits of which exist in New Caledonia, the French penal settlement, is worked by Messrs. John Higginson and Co., of Noumea, the *concessionnaires*. It is by them subjected to a roasting on preliminary fusion, which forms a regulus, containing from 60 to 70 per cent. of metallic nickel. This substance is shipped to the works of the company at Septemes, near Marseilles, where it is smelted into ingots and granule, containing $99\frac{1}{2}$ per cent. of pure nickel, and $\frac{1}{4}$ per cent. of utilisable metallic substances. The extent of the mineral deposits in New Caledonia, the reduction in the cost of freight owing to the concentration of metal through the preliminary fusion, and the economy effected by the new methods of reduction devised by M. Jules Garnier, enable the company to sell the pure metal at about one-half the price it obtained three years ago.

For a long time past, efforts have been made to work nickel, but without success, until the present year, because it was found too brittle; now, however, pure nickel has been rolled and forged; cups, knives, and other articles have been formed of it. As a rule, the pure nickel is formed by the founder with various proportions of copper, zinc, and tin, according to circumstance, to form nickel bronze; but at least 20 per cent. of nickel is required to secure inoxidisability, and to give the desired tint. All articles that are now made of brass or copper nickelised may be produced in solid white nickel bronze, by the same processes, and with the same plant, and at practically the same cost; they are also 20 per cent. stronger, so that in many cases they may be made so much lighter. The great strength and the property of non-oxidisation render this alloy eminently suitable for mathematical and musical instruments. A small quantity of nickel added to steel increases its hardness, and renders it inoxidisable, while edge-tools made of the alloy stand better than those of ordinary steel. A nickel bell metal is also found to give good results. The Paris Exhibition of 1878 proved the action of a totally new system of metallurgy in connection with this beautiful metal, and that of 1879 showed its practical introduction into most branches of manufacturing industry.—*Journal of the Society of Arts*.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW OF DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. IX.

NOVEMBER, 1880.

VOL. I.

THE members of the medical and surgical staffs at those of our large hospitals, which have Schools of Medicine connected with them, have a twofold responsibility. Their first duty is, of course, to take care that their patients receive all the benefits that the hospital can afford them. The performance of their second duty—less appreciated by the public, because its effects are more out of sight and remote—is not of less public value, being no less than the training of the medical men of the future—the turning out, above all else, of good “all the way round” doctors, who shall have such a comprehensive knowledge of the ills that flesh is heir to, that if they do not themselves perform capital operations, or such as require special dexterity, nor in all cases depend on their unaided judgment, may, nevertheless, by their advice prevent disease, be quick at appreciating its earliest symptoms, and ready to combat them.

One of the gravest objections to the creation of specialism in medicine and surgery, is its tendency to put the differentiated subject out of the ordinary course of study for the general medical student; this tendency is met by each of the legitimate special branches having its own department in our hospitals, and also by its finding its due place in those systematic works of medicine and surgery which form the student's text books.

Dental Surgery—inasmuch as skilled labour enters so largely into the treatment of diseases of the teeth, requires, in a greater degree than the other special branches of surgery, a special training, and its successful practice a more exclusive attention. Not the less on this account is it desirable, that the theory of it should be learnt by the general medical student, who may also (especially if he enters the army or navy, or seeks colonial practice) find a knowledge of its less elaborate operations of great aid to him in relieving suffering. The student, therefore would gain, if a certain amount of conservative Dental-Surgery were practised within his ken at our general hospitals. Then how stands the case as regards hospital in-patients? These at several institutions always number some hundreds, and many of them for months together are unable to leave the hospital. Among this number there must always be some, to whom stopping of teeth (even temporarily until their discharge) would be a great boon.

It thus appears that both from the hospital and medical school points of view, a certain amount of stopping of teeth at our general hospitals, would be an undoubted gain.

It is not suggested that gold stopping should be done in the wards, for that requires appliances, and would entail an expense, that hospital funds, with the demands of greater urgency constantly made on them, would not meet. What is really required, is, that patients should not have added to other pains they may have to bear, an avoidable suffering from their teeth; that valuable teeth should be saved with good amalgam or other stoppings, and that irritation of the dental nerves should be treated without recourse being had of necessity to extraction.

That there are difficulties in the way, we may be sure, or such a desirable practice would have before this been

generally introduced. First, it may be premised that good stopping is a lengthy operation. Secondly, that bad stopping is as bad, or worse, than none at all, and the deduction from these facts is, that the operator must have had a careful training before he can work without supervision, and must expend more time on his work than any general student can afford. Honorary Dental-surgeons attached to our large hospitals—though able to teach their branch of surgery, to give a general supervision to their department, to perform extractions, and treat difficult cases, and such as are of comparatively rare occurrence—cannot be expected to devote the time necessary for this work of ordinary stopping. To do so would entail on them a much greater sacrifice than would be made by hospital surgeons doing all their own dressing, inasmuch as dental operations in private practice are also lengthy, and are limited to the hours of daylight. What appears to be wanted, is the creation at our general hospitals of some such appointment as Dental house-surgeon, to be held for a term, by men who have completed their studies at a special Dental Hospital, and may desire to increase their personal knowledge with surgico-dental cases before commencing to practise. Some such title as clinical dental-assistant to the hospital they were appointed to, coupled with an emolument equivalent to that pertaining to the house-surgeonship at the Dental Hospitals, would probably prove a sufficient attraction to ensure a supply of good men for the work. It is likely that an appointment of this kind would prove especially acceptable to “Licentiates of Dental Surgery” desirous of becoming members of the College, from the opportunity it would afford them of keeping up their manipulative skill while continuing their surgical studies at a general hospital.

WE have read with interest the discussion upon the responsibility attaching to the Licentiate in Dental Surgery who administers an anæsthetic, which took place at the recent meeting of the Midland Branch of the Association. The subject is one of vital importance; nevertheless, such discussions and the individual or collected opinions elicited, can hardly lead to any practical result, for the question, if it ever comes to an issue, can only be settled by a court of law.

Notes on Arsenical Wool with Morphia.

By J. T. BROWNE-MASON.

ARSENICAL wool with morphia is a substitute for the arsenic paste or free arsenic, and is an improvement on the material sold under the name of Azotine for the destruction of the Dental pulp, more especially as the amount of arsenic contained in it is absolutely known.

This wool contains 25 per cent. by weight of arsenic, and a much smaller proportion of morphia, say, a half per cent.

I have weighed carefully, in an extremely delicate balance, the average amount of this preparation necessary to destroy sensation in the dental pulp, and I find it is $\cdot 007$ grammes, or 1-10th of a grain, containing 1-40th of a grain of arsenic, and a very minute proportion of morphia.

Although the proportion of morphia is so small, I am satisfied that the presence of it is an improvement, as far at least, as one can judge by comparing the experience of patients for whom I have used arsenicated wool, *with the addition of morphia*, and without. I have always found the morphia has allayed, in a considerable degree, the pain set up by the arsenic, notwithstanding the assertions I have seen to the contrary.

One especial reason I have for preferring the use of this preparation to that of arsenic in the form of paste, is the ease with which it is applied and retained in awkward situations, and its non-liability to be affected by moisture and the consequent leakage of the drug into the mouth with the damage to the surrounding tissues which would ensue.

Another advantage over Azotine is, that both the nature of the material and the proportion of the drugs composing it, are known.

Yet, a further advantage to my mind is the fact, that as it is not scented up to make it, in trade parlance, "an elegant preparation," by the addition of oil of cloves or any other similar superfluous adjunct, it can finally be procured at considerably less cost.

I have used it in some fifty cases in its present form with uniformly satisfactory results. I may mention that I have used it firmly packed, taking care to cover it with a plug of Hill's gutta percha, carefully sealing it to prevent the chance of any escape of the arsenic, to guard against damage to the surrounding tissues. I have used it under two different conditions of the pulp, viz., when pain has accompanied inflammation, and when the nerve pulp has been exposed and pain felt only from pressure on the instant; a second dressing being very rarely needed.

The specimen shown was prepared for me by Mr. E. Smith, F.C.S., of 8, Strand, Torquay.

I have been tempted to bring this before the Association to-day, by the correspondence that has been published in the medical and lay papers, since our last meeting, upon the use of arsenic in dental cases; especially as I had a case recently brought to me where a preparation of arsenic had been used, with the extremely unsatisfactory result of a large slough of the size of a florin formed on the inside of the cheek, near a second lower molar with large buccal cavity, into which the agent had been placed, with a protecting plug of *cotton wool*, the leakage of the drug having not only formed the slough, but set up extreme periostitis of that tooth, and to a lesser extent, of the adjoining first molar; the unfortunate patient had to lose the tooth in which the treatment had been adopted.

From the want of more careful protection to prevent the escape of the arsenic into the mouth, I can only think the operator in this case was unacquainted with the nature of the compound he was using, and I must say I think it a great pity that all preparations sold for the purpose of destroying the dental pulp, are not plainly labelled as arsenicated, when such is the case.

Royal Microscopical Society.

ADDRESS OF THE PRESIDENT, DR. LIONEL S. BEALE, F.R.S.

Feb. 11th, 1880.

From the "Transactions of the Royal Microscopical Society."

*(Concluded from page 240.)**The supposed "Structure" of Living Matter.*

THE investigation of what may be termed the minute anatomy of non-living matter has been carried to a point far beyond the powers of the microscope, I may say immeasurably beyond, but with what result as regards the nature of the changes occurring in living matter? Instead of confirming the doctrines now forced upon us with such pertinacity, every discovery connected with the forces and properties of and the behaviour and arrangement of its molecules shows how utterly groundless is the supposition that the phenomena of the living world are in any way to be accounted for by material properties. Even in those cases in which substances of the same composition as those which are formed in a living organism, can be produced artificially, the extraordinary difference as regards the conditions existing in the two cases will be sufficient to convince any unbiassed person of the totally distinct nature of the processes concerned, and of the utter incompatibility of the principles and laws by which they are governed. Professor Dewar has recently succeeded in producing hydrocyanic acid by the direct union of its elements, but the temperature at which combination occurs is *far above that of a white heat*. How, therefore, can an analogy obtain between a process in which a substance is formed at such a very high temperature, and one in which the same thing is produced at or below 70° F.?

The argument has, however, been often advanced, that as our present magnifying powers reveal such and such structural characters, if we possessed much higher powers of amplification we should be able to discover structures still more delicate and intricate than anyone has yet seen, and should demonstrate structure in that which now appears destitute of it. But the argument is fallacious, and for the reason that when we reach a point well within our present range of observation we find in living matter a structurelessness, the appearance of which is not in any way altered by submitting it to the highest resolving power we possess. And not only so, but within a very moderate range of amplifying power, the matter in question may be proved to be a more or less

viscid or semifluid substance, portions of which move from, and towards—now separating from, now intermingling with—other portions of the mass. Unless, therefore, the term structure be used in two different senses it is actually at this moment certain that living matter is structureless. Of any approach to that which is known as structure, as seen in any tissue, animal or vegetable, there is not only no vestige, but the constitution of the matter as far as has been proved up to this time, justifies the conclusion that there can be none.

Still the idea of structure being the cause of the phenomena of living matter lingers in the mind, and the observations of recent investigators seem to indicate certain structural peculiarities in the nucleus. Networks, filaments, frameworks of delicate fibres, rodlets, and granules have all been seen in certain cases, but it has by no means been made clear, whether the appearances in question are real structural peculiarities, developed for a purpose and destined to discharge some special office or function, or whether they are but the result of accidental changes in the matter of which the nucleus consists, consequent upon its death and the coagulation of some of its constituents, or perhaps occasioned by the action of reagents, or by the media in which the specimen is immersed. However this may be, it is quite certain that nuclei in numberless instances in the living state are devoid of filaments, granules, and every other indication of structure. Not only so, but nuclei undoubtedly originate in living matter, which itself affords no indication whatever of structure.

Hidden Molecular Structure.

As protoplasm is the matter out of which all cells are formed, it cannot, it has been asserted, be destitute of structure. It is already organised, but our microscopes, it is said, are not perfect enough to enable us to see any evidence of organisation. Some authorities, however, discard such ingenious hypotheses, and frankly admit the absence of any definite structure which is demonstrable. But then, say they, there must be some hidden molecular structure or mechanism to account for the phenomena manifested by the matter in its living state. But in favour of this assertion no facts or arguments are adduced. Not one word as to the nature of the supposed invisible undemonstrable molecular structure! Not one word concerning the way in which any of

the hypothetical molecules might be supposed to account for the observed facts! No suggestion of the reason why the structure affirmed to exist, should exist! In this and many other instances, men claiming to have authority come before the public and assert that things are so and so, without giving any grounds for their assertion.

Imagined molecular differences between two given masses of protoplasm are held to be sufficient to account for wide differences in the results. Whether a given mass is to develop into a man or a monkey, depends upon its "hidden molecular constitution." The President of the British Association remarks, that "between two masses of protoplasm indistinguishable from one another, there *may be* as much molecular difference as there is between the form and arrangement of organs in the most widely separated animals or plants."—There "*may be*,"—but the facts already known render it much more probable that there *are* mighty differences which *are not molecular*, and that there are none which are "*molecular*."

Structurelessness of Living Matter—Its Power.

Let us, however, grant the existence of molecular structure which cannot be demonstrated, but which may, perhaps, be discovered at some future time. What will its advocates do with it? How will they explain by its aid the phenomena of movement, of growth, of multiplication, of formation, exhibited by any living thing, or a part of any living thing, in nature? I challenge any one to give an adequate explanation of vital movements proceeding in many different directions, and at the same moment, in a living mass as clear as water, during a few seconds of time. If the hypothesis of some hidden and unknown molecular machinery is admitted, we get no nearer to the explanation of the fact, unless the arrangement and mode of action of the supposed "machinery" can be pointed out. That such assertions concerning what *may be*, and the speculations thereupon, may postpone for a little while the crash of materialistic philosophy that impends, is possible; but even this is doubtful. People have but to look, and they will find structure gradually appearing out of the structureless, and becoming more distinct as development advances. The earlier phenomena being universally characterised by absence of structure—structure being seen to develop in the formless—why should it be assumed that invisible structure existed from the first.

In the next place, let me ask you to notice the attempts made to show the varying degrees of simplicity and complexity in what is called undifferentiated protoplasm. Some, it is said, exhibit the "extremest simplification." This is simple protoplasm; other kinds are supposed to have a more complex organisation. But all this is purely gratuitous speculation, and is not based upon any facts whatever, for the lowest form of protoplasm is neither more nor less simple in composition or molecular arrangement or constitution, as far as can be ascertained by any investigation to which it can be subjected, than that of man himself. *All* is structureless; and, so far, no one has succeeded in ascertaining, by any method of examination to which protoplasm can be submitted, whether a given mass has emanated from a very low and simple organism or from a high and complex one. Neither have we any means of judging whether any given piece of protoplasm is capable of evolving a low or a high form of life. There is no reason for the conclusion that the form of life to be evolved is in any way determined by the physical constitution of the living matter. The cause of the result, whatever its nature may be, is associated with and operates upon, structureless matter only. Nor is there any evidence of any quantitative relation between structure-forming power and the matter by which this is transmitted from particle to particle; seeing that a particle of living matter, which probably weighs considerably less than the one hundred-millionth of a grain, by transmitting its peculiar power from material particle to particle, is capable during a period extending over many years after its own formation, of imposing upon many pounds of matter structural, and not only structural, peculiarities of the most striking kind. Let the advocates of the molecular machinery of living matter and the believers in hidden molecular mechanism and molecular constitution, consider the peculiarities of form and structure determined by the matter of a spermatozoon. What do they discover concerning this matter? It seems to be a minute speck of commonplace "albuminoid" material, not very different from that out of which ordinary epithelial cells are formed.—But only think of its power!

Chemical Composition and Analysis of Living Matter.

The phenomena which characterise life have been referred by many to the mere chemical properties of the substance or substances of which the living matter is composed, or to the proper-

ties of the original atoms of which the matter consists. In many addresses and memoirs on this question, we meet with statements concerning the chemical composition of protoplasm which are most misleading. Dr. Allman adds the weight of his authority to the assertion, that you can analyse protoplasm. But is it not obvious that, if by protoplasm "living matter" is meant, and the context shows that this is really so, you cannot do anything of the kind? The only matter that can be analysed is that which is found after the death of living matter—not the actual living matter itself. Is it not misleading people if you tell them you are really showing them what living matter is made of when you are only able to show them some of the characters and properties of the substances which remain after the matter has ceased to live? Of course dead matter can be broken up into its elements, and these may be arranged and re-arranged in a thousand ways without our learning how they were arranged when the matter was alive. While, on the other hand, we are able to prove most conclusively that the substances discovered after death certainly did not exist as such while the matter lived. The things we handle and name only came into being when life ceased. The elements of which they are compounded of course were there, but that is all. What we desire to learn is how they were related to one another, how they were arranged during the living state, and this remains absolutely unknown.

How can any properties of matter that can be even thought of, or any structural molecular arrangement, pull apart and rearrange atoms of Oxygen, Hydrogen, Nitrogen, Carbon, and at varying degrees of temperature in different cases? By what process of analysis or synthesis of which we can form any conception, can these changes, which we know do occur in the case of one living thing at a temperature of 100° F., of another at 50°, of another at 32°, be accounted for? Nay, there are instances in which complex chemical compounds, as well as highly complex structures, are formed in living beings at temperatures below, and indeed considerably below, the point at which water becomes solid.

Will any material properties of "undifferentiated protoplasm, account for similar chemical changes at different temperatures or different chemical changes at or near the same temperature? Many things are asserted about compounds and molecules which possess diverse properties, but which are destitute of the "property" of life,

of the nature of which we desire to learn something, but this *life* "property" is gone before the investigation is commenced. It is the old story. People ask to be informed concerning their nature, as they are living, and they are told all sorts of things about dead bodies, as if man and man's body were identical. Did not Socrates point out that his dead body was not and could not be Socrates? We want to know about living matter, and a number of dogmas are authoritatively laid down for our instruction about matter which has ceased to live. Dr. Allman does not hint at the possibility of a difference between the albuminoid bodies obtained by the analysis of protoplasm and the protoplasm itself in the living state.

The craving after molecular structure which is invisible, and the anxious longing to discover material properties to account for phenomena which are totally different from any physical phenomena of which we have any cognizance, have been now observable for many years, and indicate a strong desire upon the part of restless advocates to gain a cause which has appeared to many well qualified to judge to be a perfectly hopeless one from the first. In order to make the speculations and assertions which have been offered appear plausible, all sorts of suggestions have to be made as to what may be possible, or what may be discernible by the imaginations of gifted individuals. Speculation is added to speculation, and error is piled upon error, until it becomes impossible to present the pith of the matter for consideration in moderate compass. Is the modern philosopher who proceeds to smash, and dissolve, and analyse living matter, with the object of discovering the mechanism which works, and the forces which act, control, and guide, very much in advance, as regards the reasonableness of the proceeding of the savage who pounds up a watch in order to see what is inside? Nay, the watch, by the pounding to which it has been subjected, will have actually undergone *less* change than the living matter, which shall have been submitted to the preliminary steps of chemical analysis only.

The "Cell Soul."—Consciousness.—Identity.

Probably everyone here is aware that those who teach that there is a close relationship between the living and the non-living, differ from one another in some points which are of fundamental importance. 1. Some hold that all the actions of animals, vegetables, and non-living matter belong to the same category and are, in their

essential nature, the same. 2. Some think that while the phenomena of living matter generally belong to the same class as the phenomena of the non-living, mental phenomena and consciousness as manifested by man belong to a totally different category. They maintain that while the movement of living matter is physical, consciousness is altogether and absolutely distinct and must be placed in a separate class. But those who entertain this idea ought surely to point out exactly what they mean by "consciousness," and the particular phenomena to which they propose to restrict the term "psychical" as opposed to physical. Yet this consciousness which is held to be quite distinct from irritability and other supposed properties of ordinary matter, some of which are manifested by living matter,—is intimately associated with living matter only—nay, we can even point out the living matter which is concerned in the manifestation of consciousness. The extreme divergence of opinion existing in connection with this part of the subject is very remarkable. Thus Virchow confers upon cells a power of influencing neighbouring cells, in virtue of which they seem, according to him, to be cognizant of what is going on around them, nay, almost capable of acting in sympathy with the actions of neighbouring cells. Hæckel ironically retorts "that we must ascribe an independent soul-life to each organic cell." We must distinguish, says Hæckel, "between the central soul of the total polycellular organism, or the 'personal soul,' and the separate elementary souls of the single cells, or 'cell souls.'" But Hæckel's "soul" is evidently so very vague in its nature and so uncertain in its manifestation, that it is at present impossible to predicate anything more definite concerning it, than that in all probability, like the *Bathybius Hæcklii*, it originated by spontaneous generation, from some form of the inorganic flourishing at unfathomable depths. The discussion is rendered still more difficult by the perplexing views of many concerning the likeness of things, which, to all ordinary minds, seem to be very unlike one another. Particularly as regards the words "identical" and "identity" is there much confusion.

It would, indeed, be difficult in any other department of human knowledge to find anything to equal the extravagance of the hypotheses recently advanced concerning living matter and its properties. We are told that particles of matter out of which are evolved things utterly unlike one another are nevertheless identical.

The stuff which develops an oak, that which becomes a cabbage, that which gives origin to a dog, and the living matter which represents a man at an early stage, are all said to be "identical." Because forsooth two portions of matter resemble one another closely in appearance in the elements which enter into their composition, in the way in which they increase, divide, and so forth, they are "identical." We may actually see matter developing into a man, and matter developing into a dog, and because we cannot distinguish one from the other by physical investigation, we are expected to assent to the dictum that they are identical. It is difficult to argue with those who so terribly abuse the use of the language they employ. At every step one is puzzled to determine in what sense a word is used. This word identity is ingeniously applied to things which differ from one another *toto cœlo*, by philosophers who seem to be unconscious of, or at any rate do not hesitate to ignore, any differences which are not to be made evident by chemical or other mode of analysis. One might as well assert the identity of reason and dogma because the difference cannot be expressed in ounces or pounds. As we cannot distinguish the germ of a man from that of a dog by microscopic observation or by chemical analysis, we are told that the germs are identical, in face of the fact that a man results from the one, and a dog from the other. In spite of the obvious diversity as to form and variety of structure we see around us, all living forms were at one time identical. Identity produces diversity. This assumed identity results in extraordinary diversity of property, structure, and the like. And when we enquire how this comes about, we are assured that it is to be accounted for by the laws of molecular change. Many who repudiate materialism really accept the so-called basis upon which it rests, as if it were true. A considerable number of intelligent persons go so far with the materialists as to argue that the characteristic phenomena of living protoplasm may be due to the physical properties of the matter which enters into its composition, but consciousness is according to them in another category altogether. Polarity is the property of the magnet, irritability the property of protoplasm, but the idea of consciousness being the property of brain protoplasm not only shocks their tender consciences, but outrages their traditional beliefs, so they discover that the argument "breaks down," without however showing precisely where, why, or how.

The President of the British Association affirms that "the

chasm between unconscious life and thought is impassable," while he holds that the chasm between unconscious life and the phenomena of non-living matter has already been bridged over, and many scientific men seem to have accepted the same idea. Life is a property of protoplasm, but consciousness is not a property of protoplasm. What consciousness is we are not told, but it is intimated that in the far off future perhaps some higher faculties may be evolved which may enable our successors to understand what we do not. But where among living beings does this consciousness abruptly begin, and when in the development of man is it grafted or superadded to the life, is not suggested. Whence comes consciousness, and what is it according to this hypothesis? What category shall be invented for this wonderful property, consciousness?

Now I should like to know how mystery and prophecy and the speculations about the evolution of new faculties in a far-distant future advance our knowledge. All that can be learnt by observation is conclusive in favour of a very close relationship between life and consciousness, and the sudden acquisition of the latter characteristic is not conceivable. On the other hand, to assert that life is a property of protoplasm just as polarity is a property of a magnet, is utterly unreasonable. You cannot devitalise and re-vitalise the same matter, but you can magnetise and demagnetise the same piece of steel many times. The "impassable chasm" is between the non-living matter and that which lives, not between the latter and consciousness.

Consciousness, it is asserted by Dr. Allman, is as "absolutely distinct" from unconscious life as it is "from any of the ordinary phenomena of matter." To this statement I entirely demur, and maintain, on the contrary, that consciousness and unconscious life are intimately related, and that both are so very far removed from any of the phenomena of ordinary matter, that it is doubtful whether one should be considered nearer to or farther from it than the other. The further statement, that the "chasm between unconscious life and thought is deep and impassable," I therefore regard as altogether incorrect, and opposed to the fact of development where life is certainly at first unconscious, but where consciousness is slowly and gradually, but not suddenly, manifested. It seems much more in accord with what is known of nature to infer that out of the unconscious state the conscious gradually emerges, than to assume that consciousness is something that is

somehow suddenly superadded or evolved, in some manner that cannot be suggested.

Psychical Phenomena.

If the term psychical is extended to animals, it must undoubtedly be extended to plants, and to every form of living matter. And certainly every form of living matter manifests actions which cannot be included in physics or chemistry, and might be termed psychical, though not the same form of psychical action as thought. In the simplest forms of living matter the vital action seems to emanate from the centre of the living particle, and to influence matter in a direction from centre to circumference. In nutrition and growth the non-living matter pursues the very opposite direction, from circumference to centre. The precise part of a living particle where the matter is changed from the non-living into the living state is the centre. The change is *psychical* (?) Instead of vital actions depending upon the influence of external agencies acting from without and exciting a response, they always tend to act from within, and the degree of their activity depends upon the extent to which the external restrictions under which the living matter is placed, are removed. I believe that, in the same way, mental action (psychical) influences the particles of mind living matter, and bears the same sort of relation to these particles as the vital power (psychical) of any form of living matter bears to the matter of which it is composed.

There is, then (psychically), some intimate bond between all life, but absolute separation between all living and non-living. However great the difference between the lowest and highest life, this difference is as nothing to that psychical difference which separates the lowest simplest living from any kind of non-living matter. To regard consciousness as something *per se* is gratuitous. Of course, if the "irritability" which distinguishes living matter from non-living matter is a physical property, this doctrine might be tenable; but I have shown that it is as unreasonable to regard this so-called irritability as a physical phenomenon, as it is to consider thought itself to be a mere property of matter.

In conclusion, I ask you to consider whether it is not more reasonable to place all life in one category, and all non-living in another, than to seek to include nearly all life in the physical class, and man only, or man and the higher animals, in a separate psychical category. To include man and all life among the physical

and material, to say that man is a machine and all his actions mechanical, is simply one of many preposterous assertions in the same direction, which are untrue. Depend upon it we must attack, sooner or later, the problem how life directly influences material particles, for we shall have to accept the proposition that material particles as soon as they "live" are governed and arranged and moved in a manner in which no physical forces whatever are able to govern, arrange, and move them.

I venture to throw the most important conclusions into the form of propositions.

The phenomena of living matter are not due to the properties of the matter. Vital actions are of an order absolutely distinct from any known physical actions.

Life force, or power, has not been, and cannot be, evolved in any way from matter only, nor is it a consequence of changes occurring in matter, but, on the contrary, life influences and determines changes in the matter, which changes are quite peculiar.

The vital phenomena of the lowest simplest forms of living matter are of the same general nature as those of the highest, and are as far removed as are the latter from any kind of physical change.

The assertion that any low forms of life are near to, or establish any transition towards, the inorganic, is not justified by any facts known to science.

The attempts made to make the public believe that the so-called properties of living matter belong to the same order or category as that in which known properties of known forms of non-living matter can be included, are not to be justified by an appeal to facts, and are therefore contrary to the principles of science.

Every vital phenomenon is absolutely different in its nature from every physical (mechanical or chemical) action. There is no analogy whatever between the two sets of phenomena.

The present state of knowledge justifies the conclusion that no form of living matter existing at present, nor any one which existed in the past, directly originated from non-living matter, or in any way derived its powers or properties from the non-living.

Odontological Society of Great Britain.

THE first meeting of the Session was held at the Dental Hospital, Leicester Square, on Monday, the 1st inst., ALFRED WOODHOUSE, Esq., President, in the chair.

Mr. S. J. HUTCHINSON showed a photograph of one of the pictures in the Royal Academy at Dresden, in which a Dentist is represented using a pair of hawksbill molar forceps to extract a tooth. He had previously thought that this instrument was quite of modern invention, but this picture was nearly three hundred years old.

The PRESIDENT remarked on the opportunities Members had of collecting objects of interest during their holiday rambles, and added, that when he visited Egypt, he had tried to obtain a mummy's tooth which had been stopped with gold; he had seen it stated in books that such had been met with, but he could not discover that any one really had an authentic specimen. He did, indeed, see an incisor tooth which had some gold on it, but it was only a superficial layer, and not really a stopping, although it might easily have been mistaken for one unless carefully examined. It was the practice amongst the ancient Egyptians to cover the tongue of the corpse with gold leaf, and no doubt some of the gold accidentally adhering to a tooth had given rise to the statement.

Mr. CHARLES TOMES said that the statement was originally made by Sir Gardiner Wilkinson, in a book published about forty years ago, but the writer gave it only on hearsay evidence, never having himself seen a specimen.

Mr. THOMAS ROGERS and Mr. COLEMAN both said they had tried to obtain one of these stopped teeth, but had not succeeded, and expressed disbelief in their existence.

Mr. CHARLES TOMES related three cases of abscess of the antrum in which there had been almost complete absence of symptoms. One patient only came for inspection, because he was going abroad, but on removing a molar stump, a couple of ounces of fetid pus escaped from the antrum. In another case, a young man, all the teeth

were perfectly sound, and no cause for the abscess could be discovered. In this case also, the result of treatment had been very satisfactory.

Mr. COLEMAN remarked on the uncertain effect of treatment in these cases; he knew of one which had been under treatment for ten years. He found an injection of dilute phosphoric acid very beneficial.

Mr. STORER BENNETT read notes of a case of necrosis of a portion of the nasal and palatine processes of the superior maxilla resulting from an alveolar abscess connected with the left upper canine. The disease came on acutely after exposure to cold and wet, the patient being a healthy man, aged fifty; there was no suspicion of syphilis.

Mr. COLEMAN read notes of a case of bony granulation of the pulp in a first and second upper molar, which had been sent to him by Robert Waller, Esq., of Cairo. The patient, a young man, twenty-seven years of age, came to him complaining of some neuralgic pains affecting the left side of the face. The first left upper molar was found to be very sensitive on percussion, and was extracted; on splitting it the pulp was found to be full of bony granulation, and the neuralgia ceased from that day. About four months afterwards the pain returned; the *second* molar was found to be sensitive, and it was removed; on crushing it the pulp was found to be in the same condition as that of the first. Both teeth were perfectly sound externally. When Mr. Waller wrote no further return of pain had occurred, but as only a short time had elapsed he could not say that the disease had been arrested.

The SECRETARY read a communication from Mr. H. W. Jackson, of Lewisham. For fifteen years he had suffered from chronic periostitis and abscess about the stump of the first right upper molar, and during the whole of that time he had suffered at short intervals from boils on the right side of the face and neck. The coming of the boils was generally accompanied by uneasiness about the stump. Convinced at last of the connection between the two evils, he had two of the fangs extracted. An improvement

followed, but the boils did not entirely cease until the remaining fang was removed. The abscess and fistula then healed, and during the fifteen years which had since elapsed he had not had a single boil.

Mr. CANTON then read a communication from Mr. F. R. Lloyd, M.D.S., of Agra. A lady, about forty years of age, and apparently healthy, was brought to him for an opinion as to the nature of a tumour of the gum, extending from the tuberosity of the superior maxilla on the right side forwards as far as the first bicuspid. It was almost as hard as bone, had grown up round the teeth so that only a small portion of the crowns was visible, and it was increasing in size. There was, however, no tendency to ulceration, and the patient suffered no pain. The wisdom tooth on that side being carious, he extracted it, and on scraping off some of the periosteum of the fangs, and submitting it to microscopical examination, the diagnosis of cancer was at once clear. The patient came to London, where the decision was confirmed by an eminent surgeon, and the tumour removed. Mr. Lloyd thought it would be quite justifiable to sacrifice a tooth in order to establish in this way the diagnosis of a suspicious tumour.

Mr. COLEMAN remarked on the rare occurrence of malignant tumours connected with the teeth.

Mr. DENNANT said he was surprised to find Mr. Lloyd so very confident about his discovery of cancer cells under the microscope. He had always understood that the identification of these cells was a very difficult matter.

The PRESIDENT then called upon the Secretary to read Dr. Arkövy's paper on "Papilloma of the Oral Cavity."

Dr. ARKOVY said that cases of papilloma in the oral cavity were rare. One had been described by Sir William Fergusson, two by Mr. Jas. Salter, and a fourth by R. Baume, of Berlin; these were all that he could find recorded. Seeing then that the disease was not of every day occurrence, he was induced to describe a case which had fallen under his own observation.

The patient was a healthy girl, aged eighteen, who

came to the Dental Hospital, Leicester Square, to have some teeth stopped. On examining her mouth, Dr. Arkovy noticed a growth on the arch of the soft palate; it was pedunculated, hanging down below the margin of the left velum, and of a warty appearance; Dr. Arkovy snipped it off with scissors, and placed it in spirit.

The growth measured $\frac{1}{2}$ -inch long by $\frac{1}{6}$ -inch broad, the pedicle being about $\frac{1}{8}$ -inch thick; it was of the same colour as the surrounding mucous membrane, and the surface was composed of enlarged fungiform and filiform papillæ. On a longitudinal section it was seen to be composed of papillæ branching from a common root or base, each offshoot being composed of blood vessels surrounded by a very small quantity of connective tissue, then a thin layer of mucous membrane, and on this several layers of epithelial cells of the "pavement" variety. Dr. Arkovy then remarked on the unusual position of this growth, the other recorded specimens having occurred on the alveolar process of the upper or lower jaw. In these cases also the cause had been the irritation set up by neighbouring carious teeth, but in his case this could not have been the cause. He also pointed out the close relation of these growths to epitheliomatous cancer, as shown in the microscopical structure; in one of Mr. Salter's cases it did assume a malignant form, and in Sir W. Fergusson's, it recurred after removal. Considering the variety of the disease, it must be looked upon rather as a pathological curiosity than anything else.

Mr. CHARTERS WHITE then showed under the microscope a section of one of these tumours which he had removed from the mouth of a lady. It was about $\frac{1}{2}$ -inch long by $\frac{1}{4}$ -inch in diameter, and was attached by a peduncle to the right upper gum between the first and second bicuspsids.

Mr. COLEMAN said he had seen one specimen in the mouth of an elderly lady, who would not allow him to remove it. He recognised it by a comparison with Mr Salter's drawings.

Mr. CHAS. TOMES said, in answer to an enquiry from the

President, that he had never met with a case of true papilloma of the gum, but he had noticed that the surface of nearly all gum tumours was composed of enlarged papillæ. This was not evident when the growth was examined superficially, because the interstices between the papillæ were filled up with epithelium, but it was easily seen in a section, even of an ordinary epulis.

After some further discussion, the President proposed a vote of thanks to Dr. Arkovy and to the other contributors of the evening, and this having been carried unanimously, the meeting terminated.

Reviews.

Practical Hints on the Preservation of the Teeth. London,
J. & A. CHURCHILL.

WE have always been at a loss to comprehend why persons having some valuable information to give to the world at large should put it in the forms of "hints." It cannot be from any excess of modesty on the part of the authors, as their works are generally acknowledged by them, and receive all and sometimes more, than the usual nursing into publicity. Perhaps the writers may wish to convey to their readers the idea that they can tell much more than they choose to do, or perhaps they possess some feeling of tenderness for those for whom their information is intended, prompted by a conviction that the instruction may be more wholesome than agreeable, or it may be, that a wish to excite a desire for further information on the subject matter of the "hints" leads them to adopt this not uncommon but very unsatisfactory form of imparting information.

As, however, the pamphlet under notice is said to contain "practical hints," we expected them to be delivered in a practical manner and without that delicacy of insinuation, which is the usual characteristic of hints as generally understood. In this we have not been disappointed. The hints are plain enough when we get at them, but their accompanying dressing is so profuse and their number so few that, in justice to the author we cannot ruthlessly detach the hints from what has been ^econsidered the necessary vehicle for their administration.

In speaking of the importance of his subject, the writer says: "A fortunate few live to a ripe old age without the necessity of thinking about it, but to a far larger number, from the cradle to the grave, it is a continual source of anxiety. It should not be so, and yet we know that in each successive generation the teeth deteriorate so rapidly that, in the natural course of ages, it seems as if there would be evolved a toothless variety of the human species."

We have often heard speculations on the mental occupations of infants, and, according to our author, anxiety concerning the preservation of their teeth seems to be one of the subjects which exercises the baby intellect. Yet it is sad to reflect that the poor innocents might one day be deprived of this elevating subject of thought, if the author's absurd reading of the evolution theory could in any possible way be correct. Our artificial life is largely blamed for our dental woes. In savage life, we are told, "the infant is fed at regular, but not too frequent, intervals, and when it begins to creep and crawl about, it picks up, perhaps, a piece of sugar-cane or bone, which it tries to bite or gnaw at with its toothless gums, and whilst it derives some nourishment (that it cannot otherwise so easily obtain), the process of dentition is assisted by pressure on the hard, unyielding tissues through which its teeth must penetrate." We wonder if a Benson's chronograph or a Frodsham's lever would be sufficiently correct for measuring the intervals during which these grand savage mothers may follow their field labours, or the many other elegant occupations with which they engage their attention between the not "too frequent" feeding times. We should also like to know what proportion of savages are reared within reach of stray bits of sugar-cane, and what is the nourishment ("that it cannot otherwise so easily obtain") derived from an occasionally picked up piece of bone? What, also, is the "unyielding tissue" through which teeth must penetrate, and if "unyielding," how is it penetrated? But the young savage "cares for none of these things," he has no cradle to lie in and cogitate about the future of his dental organs, so "at the age of three, the child in a state of Nature has cut all its first teeth; it has never learned the use of knife, fork, or spoon, and therefore, has to tear and cut all its food with them, nor does it hesitate to use them for any other purpose that may suit its fancy." In this, as in some other passages, there is a little obscurity about the meaning of the author. Whether he means that

the "child of Nature, never having learned the use of knife, fork, or spoon," has to "tear and cut all his food with them," or whether he means something else, is fortunately of small importance to the point which we are gradually approaching. Yet we think that most of our readers will admit having noticed all the phenomena of second dentition in many cases where the condemned instruments of civilization have been applied to their proper purposes. But this, with some more very peculiar matter, brings us to the first "hint:" "We ought to teach all our children to pick bones with their teeth, and insist on their being allowed to do so. We should encourage them to crack nuts, bite or tear anything they will with them, for the more they use them, the cleaner, stronger, and therefore healthier, they must become."

Now this is a strong hint with no ambiguity or shadow about it. "Let dogs delight to bark and bite," said Dr. Watts. Now, our children are to be "encouraged to bite and tear anything they will." What would be the feelings of a nurse who was told to teach a child to pick a bone? Perhaps she would wonder what sort of child it could be that would require such teaching, and if she had to "prove by experience" "how easily and neatly a child will handle almost any bone," her experience as a nurse might be justly called in question. There is something exquisitely discriminating about the expression, "almost any bone." This vague "hint" might have been made more practical had the author pointed out the exceptional bones which form the qualification. Would herring bones, or eel bones, or fish bones generally, come within the category? If so, how about the little savage who has no sugar-cane, and seldom any other than fish bones all through its life?

Between hints one and two, the author takes a mild kind of objection to Lord Bacon's condemnation of sweets as being injurious to the teeth. A little man doing battle with a big one is generally an object of popular sympathy, and so the great philosopher is suddenly assaulted and summarily dismissed. But if the author can remember even later times than those of Lord Bacon, he might also remember that sugar was a much dearer article than it is now, and that sweets were largely adulterated with such deleterious matters as quite justified the strong objections to their use, made not only by Lord Bacon, but by the whole medical profession, up till within a very recent period. A "hint" to that

effect might have been useful in dispelling a popular prejudice which has had its origin in truth and not in error.

Hint number two tells us that "In order to insure the preservation" of the teeth, "we should first ascertain their functions, and because our refinement will prevent our using them in Nature's way, we should seek and adopt the simplest artificial means to copy her." * * "Our front incisor teeth (*sic*) are, as their Latin name implies, intended to cut and tear the food, so to prepare it for the double teeth to masticate;" but alas, the cruel knife and fork step in again to "deprive them of these functions, so we must employ some artificial substitute, or risk the penalty." The tooth brush and dentifrice are, we are told, the means employed as poor substitutes for Nature's work, and this statement is accompanied with a vague caution about tooth powders, too much energy, &c., all of which may be more or less true, but certainly is not new so far as either the public or the profession is concerned, and we think that the front teeth still exercise other functions conducive to their health, besides "biting thin bread-and-butter." But the great hint on this point—which may be called hint number three—is as follows: "All unnatural preparations are objectionable; some acting chemically are most injurious, but as their purpose can be attained by a more natural and simple process, they are best dispensed with altogether. Thus the occasional employment of a pointed stick of such wood as skewers are made of (if dipped, when wet, in powdered pumice stone) will remove all dark lines between the teeth or from such other spaces inaccessible to the action of the brush." We hope the author's followers may be as successful in removing dark lines as the author seems to have been; for ourselves, we have had to have recourse to very different means for the "removal of dark lines," &c. Further on we are told that "the functions of the double or molar teeth are seldom compromised by refined usages, therefore they may more safely be left alone." Are we, then, to discard all "unnatural preparations" (whatever that may mean) for the molar teeth? or is this one of those hints which should be administered with a shrug of the shoulders and an elevation of the eyebrows? Certainly, when read, it will be received with something like an expression of astonishment. The next paragraph begins with the words, "In spite of all our care, most of us are compelled to seek still further aid," &c. If the molar teeth be treated as the author tells us, we should be inclined to say—In

spite of all our want of care, teeth will frequently last longer than we have any right to expect them to do under such treatment. After this astounding doctrine about the molar teeth being more safely left alone than the "front incisors" (as if there were any safety at all in leaving either of them alone), we are told a great deal that a skilful Dentist should and should not do, and that "all vacancies caused by the loss of teeth are productive of evil, which, lasting, will work increasing mischief, because the burden of their functions must be borne by others, and digestion may fail through defective mastication, or the remaining teeth become weakened by overwork." This rather involved sentence leads the reader on to the subject of artificial teeth, in the treatment of which the author bids fair to rival our choicest advertising literature, but as he lays claim to a scientific position, we would fain know if, when he says "such things as springs should be avoided, they are often injurious, always most uncomfortable, and never necessary," whether he means clasps and wires, or spiral springs, and if he uses the word necessary in the sense that nothing is necessary, not even artificial teeth, and hence not spiral springs, or if he means to assert, or even "hint," that he has never been baffled in his endeavour to adjust a set of teeth without the use of such adjuncts. This trumpeting about artificial teeth and "simplicity" and "common sense," and such-like commonplaces, leads up to the last hint in the pamphlet, which—being printed in capital letters—may also be considered the most important. It is the name and qualifications of the writer, followed by his address in full. As the gentleman was one of the active promoters of an association which promised the Profession, among other blessings, a code of Ethics, it would be interesting to know if he is still a member of that august body.

No "*Battery in a Tooth.*" By CHARLES MAYR, A.M.

THE *Dental Miscellany* (Johnstone's) for August, contains an interesting paper from the above, reprinted from the *Independent Practitioner*. The writer takes exception to certain terms employed by Dr. Chase, such as "battery" instead of element or combination, a battery being a combination of several cells or elements. He points out the important fact, so generally overlooked by those who com-

pare a tooth, or a tooth fitted with a metallic body, to a voltaic cell, viz., that dry dentine is not a conductor of electricity, and when moist only conducts through the liquid it contains, as in the porous cells of a Groves' battery. "Gold and Dentos a battery! if this combination gives electricity, then gold and glass, gold and gutta percha, nay, any combination will give a current if the liquid is so chosen that it attacks one of the two substances." Dr. Chase has made a number of experiments in the form of inserting various substances, viz., gold, amalgam, gutta-percha, wax, and oxychloride, into tubes of dentine and exposing these to the action of an acid. If that filled with wax be taken as the point of comparison, and which lost 3 per cent., his experiments, as pointed out by Mayr, would give the following losses:—

Gold-filled cube	×	17 p. ct.	Mayr	—	0·9 p. ct.
Amalgam	„	×	10	×	1·9
Gutta-percha	„	—		×	1·3
Oxychloride	„	3		—	1·9

With these Mayr compares the results of his own experiments, shown in the second right hand table, which he informs us were carried out with all the care and precaution of an experienced scientific experimenter. He first ascertained that the same experiment carried out with different teeth and cubes yielded very different results in the same time without any visible difference in their structure, *e.g.*, six teeth lost in the same acids from 12·8 per cent. to 25·3 per cent. In order to see plainly what the filled root would have lost, if not filled, he accompanied every root plugged by a reliable Dentist with another root of the same tooth of nearly the same weight and actual size of surface exposed to the acid. The drying before and after immersion was done very carefully with the water-bath. It is clear, as the result of the second column, that there appears nothing like a law; the figures show that the filling, except with oxychloride, has no effect on the solubility of 'dentos,' the differences are merely accidental, due to structural difference." The smaller loss with the oxy-

chloride is naturally readily accounted for by its neutralising the acid in the immediate neighbourhood of the tooth. In conclusion, without entering into the weakness of the "battery" theory and the numerous Dental facts that could be brought against it, he draws attention to the single one, viz., that if it were correct, all cases of gold filling would lead to a rapid decay of the so filled tooth, which is well known to be contrary to experience. In his concluding sentence are statements which we think will meet with the full concurrence of those who have examined into the electrical theories of caries and have regarded them as untenable:—

"It is an undeniable fact, that often a gold filling does not arrest secondary decay when other fillings do; yet I think that physiology, chemistry, and mechanical forces are fully sufficient to explain this fact, without having recourse to chimerical batteries. That under special circumstances galvanism may be generated in the mouth by f. i. different metallic fillings, contact of different metals, thermo-electricity, &c., is very well possible, yet the chemical action arising from such conditions will be so infinitely small—though the effect on a nerve might be quite considerable—that it would be of no account compared with the large amount of chemical action brought about by the different liquids in the mouth, tooth and pulp."

A Movable Atlas shewing the Mechanism of Hearing and of Mastication. BY G. J. WITKOWSKI, M.D., PARIS.

The Teeth. TRANSLATED AND EDITED BY HENRY SEWILL, M.R.C.S.ENG.

THE work before us forms part V. of a Movable Atlas of Human Anatomy and Physiology. As the ear does not come within our speciality, we shall review only the section on the teeth.

The anatomy of the human teeth is represented in a diagram of a lower molar tooth, the several tissues and their relations to one another being indicated by means of

super-imposed coloured plates. So far as a diagrammatic delineation of one special tooth can be achieved in a single figure, it is here accomplished, but such will only serve a general purpose, and fail to be of use in the study of the more special features of the several forms of teeth.

The letter-press portion of the work is that which has brought into requisition the services of the translator. Of the upper bicuspid, it is written that "the masticating surface is divided by a deep antero-posterior groove into two cusps," but no mention is made of the ridges of enamel bounding the mesial and distal angles of the grinding surface, which serve to, more or less, limit the transverse fissure from passing to the mesial and distal surfaces, and, also, to connect together the two cusps. When treating of the upper molars, there is no reference to either the oblique ridge or to the fissures on the crown of the tooth. These are points of considerable importance, anatomically and pathologically. Of the three roots of the first and second upper molars, there is "one, the smallest, directed towards the palate." The fact is not stated that the anterior root of a lower molar tooth is the larger of the two. The organic basis of dentine is said to be "precisely similar to osscin, the animal basis of ordinary bone tissue." This statement does not agree with the opinion adopted by Charles Tomes,* viz.:—"The organic basis of the matrix is closely related to that of bone, with which, however, it is not identical; it is of firmer consistence, and does not readily yield gelatine on boiling."

With regard to the decussation of the enamel prisms, we cannot think that the translator has succeeded in giving a clear interpretation of what he desired to describe. It is certainly confusing to read "The decussation of the prisms . . . is only apparent, not real," and in the third sentence after this to find a contradiction, and also what is to be understood as an explanation—"Hence the crossing of fibres which actually lie on differ-

* "A Manual of Anatomy and Physiology," p. 58.

ent planes, gives rise to the apparent free descussion of the enamel prisms lying on the same plane."

Reverting to the Movable Atlas, the description which is given of the pulp canals in the roots of the molar, conveys the impression that those canals are only for, and only contain dental vessels and nerves and not pulp substance. Furthermore, the minute orifices seen on the walls of the pulp chamber are correctly described as the internal extremities of the dentinal tubes; but the precisely similar openings into the pulp cavities of the roots are "canals through which vessels and nerves of pulp pass" into the substance of the dentine.

In thus freely criticising the writer before us, we cordially admit the great difficulty of condensing into so short a compass a description of Dental anatomy and histology. The plan of movable, superimposed plates, adopted by our continental neighbours, is one of great convenience to the student, not so much for teaching anatomy, which can never be accomplished by plates, however accurate, but as a means of refreshing the memory after dissection, and we think the Editor and Translator of the letter-press portion of "The Teeth," may in a future edition be able to make the work more serviceable by a few not unimportant alterations in the text, which as they at present stand, are certainly, if correct, at least not very intelligible.

Royal College of Surgeons of Edinburgh.

SOME QUESTIONS AT A RECENT EXAMINATION FOR THE L.D.S.

SURGERY.

1. Poisoned wounds,—give their characters and treatment, and the poisons commonly met with.
2. Give the symptoms of a case of concussion and depression of the brain.

MEDICINE.

1. Hæmoptysis,—give the different kinds, diagnosis and treatment.
2. Mitral and aortic regurgitation, diagnosis and treatment.

DENTAL ANATOMY.

1. Describe the tempero-maxillary articulation, give its movements, and the muscles of mastication along with the nervous supply.

2. Give the microscopical appearance of enamel, dentine and cementum, and the uses of each.

DENTAL SURGERY.

1. Scorbutus,—describe the appearance of the gums in an advanced stage of the disease, give treatment, both local and constitutional, you would recommend.

2. When would you be justified in removing a perfectly sound tooth, mention the cases, and in each case which tooth you would remove?

Obituary.

GEORGE DERBY WAITE.

MR. GEORGE DERBY WAITE, who was born in 1804, was the second son of John Waite, Surgeon-Dentist to George the Fourth when Prince of Wales. He received his early education at Eton and in France. After the death of his father, in 1820, he studied for some time in Paris, under Dupuytren, at the Hotel-Dieu; and during his residence there, became attached professionally to the British embassy of that period. On his return to London, he passed the College of Surgeons, in 1824, and succeeded to his father's profession, which he practised with much success. In 1843, he was induced, by a member of the Imperial family of Russia, to go to St. Petersburg, where he attended the Court and many of the nobility. Whilst in St. Petersburg, he became a Member of the Imperial Surgical Academy of that city.

Some few years after resuming his profession in London, on the institution of the College of Dentists he was elected president, which post he held for some time; continuing in practice until 1870, when, owing to advanced age, and failing health, he retired, subsequently visiting Australia, and residing chiefly in Paris. Mr. Waite was a good classical scholar, and author of two or three useful works on professional subjects. He was particularly esteemed by a large circle of influential friends, for his kind and amiable disposition, and for his courteous manner; and is deeply lamented by these, and by relatives who survive him.—*British Medical Journal*.

ON going to press, we learn with regret that Mr. Marsh, of Oxford Road, Manchester, a promising and active member of the Midland Branch of the Dental Association, died after a very short illness.

Some American Views on the Chorda Tympani.

IN the New York *Archives of Medicine*, June, 1879, there is a short paper by Dr. Bigelow, of Washington, giving the result of some excessively careful attempts to unravel the mystery that obscures the

origin of this nerve. His conclusions were certainly ingenious, and the greater part of them were confirmed by Dr. Spitzka, in the January following, in a note in the new *Medical Record*. Lastly, in the April number of *Brain*, Dr. Bigelow gives a further illustration and confirmation of his views. Besides observing the results of sections of the nerves *sub judice*, Dr. Bigelow has, with infinite labour and after repeated failures, succeeded in isolating the fibres of the Chorda Tympani from those of the facial in the aqueduct of Fallopius, and has followed them through the gangliform enlargement to the ganglion in the intermediary nerve of Wrieberg. This isolation is accomplished by the aid of a powerful lens and reagents. The author's conclusions are mainly the following. He discards the idea of the Chorda Tympani having anything more to do with the facial than that it is for a time its guest in the aqueduct. He considers that it is a nerve with a separate cerebral origin of its own, first appearing as the nerve of Wiesberg before it joins the facial. It derives its special sense fibres from the ganglion in the intermediary nerve into the granular protoplasm of which he has himself traced its fibres (with this latter statement Dr. Spitzka finds fault). Dr. Bigelow repeats the old experiments to show that division of the lingual or the facial before they are joined by the Chorda Tympani does not modify the sense of taste excepting after a lapse of time, which latter effect he refers to the spreading of degeneration along the main trunk; but he adds an experiment of his own, namely, division of the intermediary nerve, with loss of taste. This, of course, requires confirmation. We remember a similar statement being made with regard to the branches going from the second division of the fifth to Meckel's ganglion, with the object of proving that the special sense travelled thence along the vidian nerve. This observation was afterwards shown to be incorrect. Again, the contents of the internal meatus have been divided (including, of course, the intermediary nerve) without affecting the special sense. And, lastly, the analogy of the horse points strongly in the other direction, Professor Owen having traced the Chorda Tympani straight back through the facial to the great superficial petrosal, a dissection comparatively easy of demonstration in the horse owing to the looseness with which the fibres are bound together. Both Dr. Spitzka and Dr. Bigelow agree that the nerve of Wrieberg is quite distinct from the facial at its origin from the medulla oblongata. The former experimenter has made many transverse microscopical sections of human and animal peduncular tracts, and has never found any connection between the facial nuclei and those of the newer intermedius, the facial nucleus being within the lower fine margin, while that of the nerve of Wrieberg is in the sensory posterior column of the medulla, on a level with the auditory nuclei. Both authors confess the great difficulty of conducting the experiments with requisite nicety, owing to the tendency of reagents to spread along the nerve tracts and

involve other nerves. One of Dr. Bigelow's experiments consisted in tying a silk thread round the intermediary nerve, behind the ganglion, and irritating it with a small Gaeffe battery. The special sense persisted two hours; this he attributes to a reserve force in the ganglion, but it might also depend upon the fibres having a different source. He considers that the special function of the ganglion is to differentiate with exquisite precision between various sapid substances, the appreciation of which is governed by a central connection. Dr. Spitzka regards the functions of peripheral ganglia as being too little understood to be able to confirm Dr. Bigelow's theories in this respect. It is obvious that the shock attending these operations, and the innumerable sources of confusion and failure, render considerable confirmation necessary before their results can be accepted as facts, but the results of such careful and persevering investigation cannot fail in the end to clear up the little problem of the real innervation of teeth. One thing is clear, that however much experimenters may differ with regard to the true interpretation of the phenomena they observe, one or two facts are now abundantly proved. One of these is that the lingual does receive its sense fibres through the Chorda Tympani, another that this latter nerve has no motor influence at all. Whether this nerve reaches the facial along the vidian, travelling in the same sheath with motor fibres going from the facial to Meckel, or, as has been suggested, comes from the tympanic branch of the glosso-pharyngeal (*Odonto. Trans.*, July, 1879), or, lastly, as Drs. Spitzka and Bigelow would have us believe, from a separate brain centre *via* the nervus intermedius, these points cannot be considered as decided. It might be elucidatory to observe the exact results of an early section of the glosso-pharyngeal.

EXTRACTION AND REPLACEMENT OF TEETH.

Since John Hunter, this treatment has from time to time interested the profession. Yet, notwithstanding the great authority who first advocated it, the practise has never become very universal. In the January of 1879, M. Magitot published in the *Bulletin de la Societe de Chirurgie* the results of 63 cases in which he had treated periostitis by extraction, resection of the diseased portions of the root, and replacement of the tooth. Five only of these 63 cases failed. In 1878, Dr. David collected and published 20 cases, with only one failure. In 1870, Messrs. Coleman and Lyons published 14 cases, nine of which had succeeded. The revival of this treatment was possibly due to a successful case published by Dr. Delabane in 1820. The *modus operandi* is, first that the tooth should be extracted with the greatest care, the alveolus and gums being spared as much as possible; the diseased portions of root are then to be cut off and the edges filed smooth, and any cavities filled. If a natural fistula does not exist, an artificial one is to be drilled through the alveolus. The tooth is then to be replaced, and

held in position by a figure of 8 bandage or a gutta percha shield. These are the instructions given by M. Magitot. The local reaction, he says, is slight, adhesions form in a few hours, and complete recovery, with closure of the fistula, ensues in less than a fortnight. M. Magitot remarks that the treatment always fails if the pus has already made its way as far as the alveolar margin. It would be interesting to know from those who are personally acquainted with the results of such treatment, how long teeth so treated remain useful members, and how long a time must elapse before the case is reckoned a success.

EXPULSIVE GINGIVITIS.

At a meeting of the *Société de Chirurgie*, in the June of this year, a report was read by M. Magitot of a Commission consisting of MM. Magitot, Deprès, and Delaus, appointed to examine a work by M. Aguilhon relative to the pathology and treatment of "gingivite explosive," also called alveolar catarrh, *pyonhée alvéolaire*. The disease is an intra-alveolar affection. M. Marchal (1861) thought it originated in the gum and resulted in the expulsion of the teeth, hence its name of "gingivite explosive." M. Magitot commences his report by an enquiry whether the original seat of the malady is in the gum or in the alveolus. He concludes, from researches dating back to 1865, that throughout its course it is confined to the periosteum and cement, and that any abscesses or other gum affection are purely secondary, he therefore proposes to call it "alveolar osteoperiostitis." It specially affects diabetic and gouty subjects, and those who suffer from albumenuria. It generally occurs between the ages of 40 and 50, and has a tendency to attack one tooth after another. In the ensuing discussion, M. Deprès stated his belief that it was due to an overcrowded dentition, and that the teeth which were lost were healthy. M. Deprès claims the right of personal experience to speak upon the subject with authority—five years of his life had been poisoned by suffering due to this disease. He considers that the victims have usually pointed chins, indicating insufficient tooth room. M. Magitot considered that the disease of which M. Deprès was speaking was a different disorder altogether, the essential difference being that the teeth in the one case were healthy, in the other not. M. Aguilhon, the author of the book under discussion, entertained very peculiar views with regard to the morphology of the structures involved, he regarded the dental periosteum in the light of a ligament, and conceived that there was an analogy between the hinge attachment of the teeth of certain fishes (the angler and the hake) and that of the human race. M. Magitot frankly observes that he fails to follow the author in these flights. MM. Deprès and Magitot could not agree about the origin of the disease, possibly because they were speaking of two disorders, which, though greatly resembling each other, were not identical. The detailed account of the meeting will appear in the Society's *Bulletin*.

Analgesia by Rapid and Forcible Inspiration.

To escape suffering pain, to avoid giving pain, are points of interest and importance to both patient and surgeon. There are many minor surgical operations, such as the extraction of teeth, the opening of abscesses, &c., which are of such brief duration that surgeons are reluctant to incur the risk of chloroform or the annoyance of ether, and which are yet attended with very great, sometimes intense, pain. Especially in dental practice, nitrous oxide gas has been used quite extensively, and with great satisfaction, but the facilities for its administration are not always at hand.

At a recent meeting of the Philadelphia County Medical Society (reported in the American medical papers), Dr. Benjamin Lee brought before the society the results of some observations and experiments which he had made upon the subject of analgesia induced by forcible and rapid respiration. In his paper published in the *Philadelphia Medical Times*, are stated the following facts concerning the subject:—His attention was first called to the subject by the report of a servant who had been sent to Dr. Bonwill, a well-known dentist of Philadelphia. She said that “Dr. Bonwill had pulled her tooth, and did not hurt her a bit,” that “he made her breathe as fast as ever she could, and before she knew it, the tooth was out.” There was no pain, although she perceived the jerk, when the tooth was extracted. Not long after this, he had occasion to open an abscess in the perinæum of a young man about twenty-five years old, rather delicate and decidedly nervous. After the young man had made rapid inspirations for about three-quarters of a minute, the doctor made an incision about an inch long, and evacuated several ounces of pus. He continued the rapid breathing for at least a half minute longer, and was surprised to find that the operation was completed. He had felt nothing except a sensation of pressure upon the tumour. A fistulous communication with the urethra appeared in a couple of days, and it became necessary, ultimately, to lay open this fistula. Two bridles, each an inch broad, were divided with scissors on a grooved director; and by the same method perfect freedom from pain was secured, although the operation was, of course, much longer than the former one. In another case where he lanced a felon, there was not the same success. The patient’s nerves were completely unstrung from the intense and protracted pain which she had undergone; and she could not be made to breathe with sufficient force and rapidity to secure the desired effect.

Dr. Lee does not undertake to explain how this effect is produced, whether it is a form of hypnotism, or the result of a modification of the cerebral circulation, brought about by the respiratory act. He merely brings forward the results of his observations thus far, believing that they show that by a continuance of rapid and forcible respirations for a

certain length of time, it is possible "to induce such a condition of the nervous system that pain shall not be appreciated by the sensorium."

Dr. Bonwill has made use of this mode of securing freedom from pain in dental surgery for several years past, and especially during the last five years. He informs his patients that they will be fully conscious of all that occurs, and perceive every touch, but will feel no pain, if they keep up the inhalations energetically and steadily during the whole operation. The inhalations must be at the rate of one hundred a minute. It is very difficult for a person to breathe more than one hundred times a minute, and "for the minute following the completion of the operation the subject will not breathe more than once or twice." Very few have force enough left to raise hand or foot. Dr. Bonwill claims that the results of his experience are such, that there is no longer any necessity for chloroform, ether, or nitrous oxide, in the dental office, for the purpose of extracting teeth, or deadening sensitive nerveine.

Drs. Garretson and Hewson have made use of this system of rapid respiration in connection with the usual anæsthetics in major operations where time is needed, and find a smaller quantity of the drug to suffice than when it is given in the usual way. Dr. Hewson makes use of the rapid breathing to the exclusion of drug anæsthetics in midwifery practice.

Dr. Bonwill's theory of the effect of the rapid respiration is:—1. That there is diversion of the will-force in the act of forced respiration at the rate of one hundred per minute, which involves such concentrated effort that ordinary pain would make no impression while this abstraction is kept up. 2. That there is a speedy effect due to the excess of carbonic acid set free from the tissues by the rapid respiration. 3. That hyperæmia is caused by the rapid respiration retarding the flow of blood from the brain.

Appointment.

Mr. Gurnell Hammond, L.D.S., R.C.S. Eng., has been appointed Dental Surgeon to the Western General Dispensary, Birmingham.

Communications Received

From Messrs. T. Gaddes, H. S. Hardwicke, W. MacCormac, J. W. Langmore, George Hilditch Harding, George Parkinson, McBoulton, Roff King, W. J. Waite, T. Kenshaw, H. P. Mason, J. S. Crapper, G. Burch, J. Jeffrey Bell.

Annotations.

“ The following letters, which were sent to the Editor of the *British Journal of Dental Science* by a German correspondent, show that the arrest of Buchanan in America has not put a stop to the traffic in bogus degrees. The letters are in German, and from the style and spelling it is evident that the writer is a very illiterate person.

LETTER No. 1.

(Translation.)

“ ——— ROAD,

“ LONDON, S.W.

“ HONOURED SIR,—Replying to your inquiry, I beg to say that I am the sole representative of the ‘New England University,’ and that the following are the conditions upon which degrees are granted:—

“ Degrees can be taken in all Faculties, viz. Philosophy, Medicine, Theology, Dentistry, Chemistry, &c., and also, under certain circumstances, in Music. Each candidate must send in an accurate sketch of his life, together with a faithfully-worded copy (attested by word of honour) of his class or examination certificates; and, if these are not sufficient, a good essay founded on his own researches. Those gentlemen who do not possess a university education, but whose position in life is such that a ‘scientific ability’ may be taken for granted, or who have acquired a general education by means of private studies, can obtain a degree of Doctor of Philosophy by transmitting the (word illegible, ? fee) and a sufficient thesis—this latter I constantly add myself. After (sending) a short sketch of his course of education, each candidate is at once informed what conditions are required of him (literally, ‘what claims are placed on him’) in respect of conferring the doctor’s degree. The fees and other costs come together to 650 Reichsmarks (about thirty guineas).

“ The doctor’s degree can in no way be bought (? elsewhere). Of the German universities only one confers degrees *in absentia*, and that only in the Faculty of the Philosophy of Laws, and then on those gentlemen who have already passed a ‘State examination;’ *in prasentia* only on those who can show at least six half years of university studies. I assist such candidates as far as possible in every way.

“ I do not require any prepayment, only that the amount should be deposited with some safe house of business until the diploma is taken up, so that you are quite on the safe side. With the diploma you receive a certificate from the university that your name has been entered on the university books as having received the degree. For thirty marks you can have the diploma attested by a notary public.

“ This is the only possible way of obtaining a doctor’s diploma. Beware of the numerous false offers which will be made to you at any price you like.

“ I am, yours respectfully,

“ ———.”

LETTER No. 2.

(Translation).

" LONDON,

" August, 1880.

" HONOURED SIR,—I only obtain the doctor's diploma *in absentia* of this University. I could procure you a Dentist's diploma (D.D.S.) for 600 marks. A journey to England is, of course, always expensive. If therefore you will deposit the amount with any house of business I will send the diploma thither.

" I cannot procure you a diploma from any English college, only from the very good 'New England University' in Boston, from which several Dentists in Germany hold their titles. My private address is ——— Road, London, S.W.

" The diploma is made out in Latin, signed by the professors of the university. It is made out so as to resemble a German one obtained by examination.

" I hope this will suit you.

" Awaiting the favour of your order in course of post,

" I am yours respectfully,

" —————."

DEATH FROM THE ADMINISTRATION OF CHLOROFORM.

On Sept. 30th an inquest was held at Hull, before Mr. J. J. Thorney, borough coroner, on the body of James Thompson, aged 59, foreman at the Forge Works, No. 1, Richmond Terrace, Drain Side, who died the previous day from the effects of a dose of chloroform. Sarah Huntley, Beverley Road, who had known deceased for twenty years, and had attended deceased recently, said that after the first operation deceased seemed to recover very well. On the second occasion he manifested no fear of the operation. Mr. R. H. Nicholson, surgeon, said that he had attended the deceased the last three weeks. Deceased was suffering from stone in the bladder. It was necessary to remove the stone to make his life bearable, as he was suffering terrific pain on account of it, and was incapacitated from his work as long as it lasted. There were two operations by which this could be effected. One was by cutting and taking the stone out, and the other was by crushing the stone, an operation known as lithotrity. The operation of cutting was a dangerous one for men as old as deceased was, and for this and other causes, witness determined upon using the lithotrite. Witness had some time ago performed the whole of the operation upon another man, who was now alive and well. It was found necessary to administer chloroform to the deceased, previous to which an examination was made of the heart, pulse, and lungs, the result being that witness thought him a safe subject for the administration of chloroform. On the 23rd of September the operation was performed by witness, with the assistance

of two of his assistants, and deceased on that occasion passed successfully under the influence of chloroform. Some of the stone came away, but it was necessary to renew the operation to get the remainder out. Accordingly, on Wednesday, about eleven o'clock, a second operation was performed, one assistant being present. Witness wished to do without chloroform, but deceased urged him to administer it, as he said that he could not bear the operation without it. Witness then administered the chloroform. About $2\frac{1}{2}$ drachms were administered during the whole of the operation, which witness thought was a very small quantity. It was sprinkled from a "drop-bottle," which only let out a few drops at a time, on to a piece of flannel [spread over a wire-work frame, which went over the mouth and nose. Deceased submitted very well to it, and witness performed the operation. The stone was crushed twice, and witness was about to do so a third time, when his assistant called his attention to the man's face. Deceased was looking very pallid, as if he had fainted. Witness immediately withdrew the instrument. He suspended deceased in order to send the blood to the head, and flicked him over the breast with a wet towel, while the assistant endeavoured to induce artificial respiration, but although deceased was kept breathing for about half an hour, the heart did not act again. In his opinion, deceased expired when his assistant called his attention to the change of colour in the face. Chloroform was not being administered at the time that happened. Witness, in reply to the coroner, stated that he had administered chloroform above a hundred times a year since he had been assistant surgeon at the infirmary, and he had administered it very many times during the last twenty years. In reply to a jurymen, witness said that the part of the stone that the instrument was attached to measured an inch and five-eighths. James Soutter, student of medicine, pupil of Mr. Nicholson, who said he had been present at many operations in which chloroform had been administered, sometimes as a spectator, and sometimes as an assistant, corroborated the evidence of Mr. Nicholson, adding that he first observed a change in deceased by noticing that his breathing was impeded. Mr. Henry Thompson, who had been house-surgeon at the infirmary for five years, and is now one of the honorary assistant-surgeons of that institution, and who said he had seen many hundred cases in which chloroform had been used, stated that he had made a *post mortem* examination of the body that morning. He opened the chest and examined the heart and lungs. He found the heart weak and flabby, especially the right ventricle. The lungs, with the exception of one little patch, were healthy. The cause of death was failure of the heart's action. From his examination of the bladder he could say that it would have been necessary to have performed the operation several times more. The jury returned a verdict that deceased died "from the administration of chloroform and weakness of the heart; that the chloroform was administered with all due precaution, and that the operation was conducted in a skilful manner."—*British Medical Journal*.

A SEVERE CASE OF FACIAL NEURALGIA CURED BY A NEW SURGICAL OPERATION.

In April of this year, a lady, aged 56, who had suffered many years from a most severe facial neuralgia, called upon me, and implored me to do something for her relief. I shall not readily forget the careworn expression of her face as she related to me the terrible nature of her sufferings. She told me that, for a period of upwards of ten years, she had endured the most fearful torture from constant attacks of neuralgia, which caused her to scream, and left her in an exhausted condition; and that, although she had incurred very considerable expense to obtain relief, she had failed to do so; and that the attacks were gradually increasing in violence, frequency, and extent. She also informed me that she had been an in-patient, for some weeks, in the London Hospital, under the care of Dr. Fenwick, and that she had left that institution no better. I need not enumerate the various medicines and remedies which had been tried in this case—ice, electricity, &c.—for all alike had failed; even subcutaneous injections, although at first mitigating the paroxysms, began to lose their influence. Impressed by the supplications of my patient, I promised to do something for her. After considering the case for a week, I resolved upon a plan which I carried out on May 11th, 1880. In this case, the pain commenced in the mental nerve of the right side, just at its exit from the mental foramen; from this spot, it ran backwards to the front of the ear, then upwards to the vertex, forwards to the frontal nerve, down the right side of the face and neck to the arm, and backwards to the scapula. On examining the mouth, I found the gum, above the starting-point of the pain, of a veined and congested appearance, thickened, and harder to the touch than the gum of the opposite side. The tongue was white and tremulous, and all the teeth had been extracted. Six years ago she had a portion of the alveolar process removed; the idea then being that the pain was produced by the pressure of a buried stump of a tooth; but the operation proved that this was not the case. Mr. Penny and Dr. Rowntree kindly assisted me with the operation. As soon as the chloroform took effect, I made an incision along the lower border of the jaw, and dissected up a flap till I reached the mental foramen. I then ran into the foramen a red hot steel wire for a quarter of an inch or so, and thoroughly destroyed the nerve. On withdrawing the wire, the artery bled considerably, and I was obliged to plug the foramen. This plug was the cause of some amount of suppuration and delay in the healing of the wound. However, it came away in a few days in the discharges, and then the wound healed kindly, and my patient, from that time, has been entirely free from pain, and is now restored to health. Anything more satisfactory than the result of this operation I have never known. She is now able to take food without fear, to sleep without narcotics, her tongue has regained its colour, and she now takes an interest in her

household affairs. Much, lately, has been said and written about nerve-stretching; but the result of this operation proves that in the cautery we have another remedy upon which we may depend, and which, in many instances, may supersede nerve-stretching; also one which possibly may be of great benefit in tetanus.—AUGUSTUS BROWN, M.D., Barnsbury Park, Islington.—*British Medical Journal*.

NITRO-GLYCERINE IN NEURALGIA.

We have received from Messrs. Parke, Davis and Co., of Detroit, Michigan, samples of their nitro-glycerine pills. This drug was originally introduced by Dr. Murrell as a remedy for angina pectoris, and has since been extensively employed as a remedy for neuralgia, megrim, asthma, and other complaints. One of the funniest things about it is a paragraph that appeared some time ago in one of the daily papers. Speaking of the nitro-glycerine pills, the writer says: "They are reported upon very favourably from a medical point of view; but we may perhaps be excused if we point out that there are other very serious considerations involved. Has the author of this ingenious discovery so completely confined his reading to professional journals that he never heard of the Explosives Act, which provides, *inter alia*, that before a house may be converted into a nitro-glycerine factory the approval of the Secretary of State must be obtained? Have the plans of the proposed factory, and of the adjacent buildings where the explosive pills are to be made, been deposited at the Home Office in triplicate as the Act enjoins? Will the pill boxes be waterproof, and will they, in accordance with the orders of the Secretary of State, be marked, 'explosive blasting cartridges, containing dynamite ammunition, class six, division two?' Moreover, it is not quite clear that patent-rights have not been overlooked. The House of Lords have decided on an appeal case that to absorb nitro-glycerine in porous non-explosive substances, constitutes an infringement of Noble's patent. It might be a nice question for a court of law, how far an angina pectoris patient, taking one of these pills, might not be held to be disobeying an injunction of the highest court of appeal. These considerations are urged on purely legal grounds. But the prospect of a growing passion for nitro-glycerine pills opens up apprehensions of personal surprises of a very unpleasant kind. We have already sufficient mysterious disappearances without introducing a fresh element of possibility in the shape of nitro-glycerine to be taken internally. The apothecary who made pills to prevent earthquakes is an old figure in literature. An apothecary who makes pills calculated to bring about an earthquake is a new factor in social life, who appears to require especial attention." In answer to this, the editor of the *British Medical Journal* replies that there is not the slightest cause for anxiety, and that it is not likely that anyone will ever be blown up by nitro-glycerine pills. However, to make assurance doubly

sure he has submitted the question to a gentleman who is pre-eminently fitted to offer an opinion on the subject. This authority, after expressing a decided opinion that the dose used for medicinal purposes could not by any possibility cause an explosion, proceeds to detail some experiments which can hardly fail to be regarded as conclusive. He says, "I obtained about an ounce of the mass from which the pills are made, and carried it in my pocket first to Westminster in an omnibus, and then to the City by underground railway. It received a very considerable amount of jolting and knocking about, and had it been an explosive could hardly have failed to have gone off and annihilated me. I next stirred it up, first with a lighted match, and then with a red-hot wire. I have also thrown some of the pills from a second-floor window to the pavement beneath without the slightest effect. That the mass cannot be exploded by percussion is amply shown by another observation. A portion of the mass was placed on an iron plate, and a heavy weight allowed to fall on it from a considerable height. Another portion was wrapped in paper, and hammered for some minutes on an anvil." The editor expresses an opinion that no patent rights have been infringed, and adds, "Nitro-glycerine is a valuable remedy for a most painful and distressing complaint, and it would be a thousand pities if any attempt were made to limit its utility. It can be used for medicinal purposes with the most perfect and absolute safety." The paragraph in the daily paper created some amusement at the time, but it was understood on good authority that there was never any intention of interfering with the sale of nitro-glycerine for medicinal purposes. The pills before us are of different strengths, viz., $\frac{1}{100}$, $\frac{1}{56}$, $\frac{1}{33}$, $\frac{2}{3}$, and $\frac{1}{10}$ of a grain, and are attractive in appearance. It is best to begin with gr. $\frac{1}{100}$ every two or three hours, and to increase the dose if necessary. The local application of the nitro-glycerine has been recommended in toothache.

CHANGES IN CERTAIN GLANDS DURING SECRETION.

In the December number of the *Journal of Physiology*, there is an interesting account by Mr. Langley of some experiments upon the salivary glands, conducted with a view to ascertaining the changes that take place in the alveoli and cells during secretion. The chief results he has obtained are as follows:—

The Parotid of the Rabbit.—The alveoli can be observed in the living state without serious interference with the circulation. When the gland has been quiescent for several hours, the alveolar cells are granular throughout, and the outlines of the cells are only faintly marked as dark lines, without granules. When the gland secretes, the granules disappear from the outer borders of the alveolar cells, that is from the portion of the cells nearest the basement membrane. After prolonged secretion very few granules are left in the cells; those that do remain

in any cell form a thin layer at its inner portion, that is, at the portion bounding the lumen. In an alveolus during secretion the cells separate from one another slightly near the lumen, thus the lumen stretches out for a short distance between the cells, it becomes at the same time larger by the diminution which takes place in the size of the cells. The above described change takes place whether the secretion is induced by giving food to the animal, or by giving it pilocarpin, or by stimulation of the sympathetic nerve. The two zones of the fresh state are not preserved by reagents—osmic acid stains the substance of each alveolar cell more equally in the active gland than in the resting one. The saliva obtained from the parotid of a dog by stimulation of the sympathetic, presented somewhat unusual characters, it clotted readily, and contained 8.3 per cent. of solids, of which 7.8 per cent. were organic substances. Jacobson's nerve was uncut.

The Submaxillary of the Rabbit undergoes changes of a similar kind to those observed in the parotid, but less marked. The submaxillary gland has one peculiar feature, the transition cells and some of the ductule cells contain during life granules much more distinct and larger than those contained in the alveolar cells. How far these disappear during secretion is uncertain. Mr. Langley upholds his previous objection to Nussbaum's view that ferment is formed in the transition cells and not elsewhere. Briefly his objections were that the ductule cells in their method and depth of colouring behave like transition cells, and that the black colouring of the transition cells with osmic acid does not occur if the gland is previously treated with absolute alcohol, in which the ferment is said by Nussbaum to be insoluble. He can in the main confirm Bermann's description of a tubular gland in the submaxillary gland of a rabbit (enclosed in its acinous gland substance). In mucous glands the changes are less readily followed, but are probably similar. In rest the alveolar cells form granules, in activity the granules are used up, and disappear first from the peripheral parts of the cells. Since the above investigations have been published, a paper has appeared in Pflüger's Archiv., by Grützner, upon the formation and excretion of ferments, where the paper touches upon the same points the author agrees in the main with the above results.

In a second article in the same journal, Mr. Langley communicates the results of his observations upon the pepsin forming glands in various animals with very similar results to those obtained in the serous glands.

In the *œsophageal glands of the frog* he finds that after fasting, the alveoli are granular throughout, the outlines of the cells not visible; shortly after food has been given the granules thin away at the peripheries of the alveoli, rendering the outlines obvious. Later the clear zone becomes larger, the granular zone becoming smaller—nuclei are not seen either in rest or in activity—the granules are therefore to be considered as stored up cell products, which, in suffering molecular re-ar-

rangement during secretion, give rise among other substances to the proteolytic ferment.

In the gastric glands of mammals the chief cells are in rest crowded with conspicuous granules; the border cells are either without conspicuous granules or are finely granular. During digestion the granules in the chief cells diminish; where there are coarsely granular chief cells there is a large amount of ferment.

TETANUS.

The current medical literature of the last few months contains several notices of cases of undoubted Tetanus that have yielded to treatment of one kind or another, and in the January number of *Brain*, part viii., there is an article by Surgeon-Major Ratton, M.D., of the Medical College, Madras, in which he draws some very sound deductions from the most valuable of all evidence—long personal experience. He discards the division of Tetanus in handbooks into traumatic and idiopathic; holding that Tetanus is never strictly idiopathic, but always due to a peripheral nerve irritation of some kind, and those cases which have been called idiopathic are simply cases in which the irritation has not been discovered.

He divides the subject into five propositions:—

1. Peripheral nerve irritation is a cause of Tetanus.
2. Peripheral nerve irritation is present in all cases of the disease.
3. It produces eventually the group of symptoms known as Tetanus.
4. It explains the facts of the morbid anatomy of the disease.
5. It guides the treatment of the disease and is proved by its success.

The first of these propositions is self-evident. The second requires demonstration: Dr. Ratton shows that when a case of Tetanus is not obviously traumatic, it may almost always be traced to one of three sets of causes, puerperal, menstrual, or worms; and in each case the peripheral nerve irritation is obvious enough on post-mortem examination.

Our knowledge of the morbid anatomy of Tetanus is not at present very precise, but what facts we have at our command seem to point to a state of inflammation of the nervous tracts involved, and of the spinal cord, which may be reasonably supposed to be due to prolonged peripheral irritation.

Touching the effects of treatment, Dr. Ratton relates some striking results.

He relates two cases in which section of the nerve, and one in which amputation cured the disease. But he urges that when molecular changes have taken place in the medulla, the knife is useless. "Something more is wanted—some powerful wrench to the nervous system," to act as a revulsive or counter-irritant. The remedy he proposes is nerve-stretching; this proceeding may act upon the nerve centres; that it has frequently succeeded is a fact, and it cannot act by interrupting the

current of peripheral nerve irritation, seeing that the sensation, motion, and nutrition of the part supplied by the nerve remain intact after the operation. Certainly very little is known yet about the way in which nerve stretching acts, but the results of the operation are beyond doubt most satisfactory.

In the *American Journal of Medical Sciences*, October 1879, Dr. Prentiss relates a case of what appears to have been mild puerperal Tetanus, in which marked opisthotonos had set in, and during the paroxysms the patient was unconscious. 30 grains of chloral were given every two hours from 8 a.m. till 9 p.m. (5ii of chloral were taken altogether) recovery complete and uninterrupted.

In the *Lancet* of July 1879, Surgeon D. H. Cullimore relates a case of true traumatic Tetanus due to injury of the toe, the symptoms declared themselves after the amputation of the toe. The treatment was by injections of atropia varying in strength from $\frac{1}{60}$ - $\frac{1}{40}$ grains, and in nine days two grains were injected with completely satisfactory results, but without any effect on the pupil or temperature, showing the tolerance induced by disease.

Lastly, in the February number of the *British Medical Journal* there are the notes of a case of true traumatic Tetanus occurring in a man of intemperate habits, about a fortnight after a bad crush of the fingers. There was marked trismus and opisthotonos, the respiratory muscles, especially the diaphragm were affected, the skin was bathed in a cold sweat, and the slightest touch or excitement brought on spasms, which occurred every four or five minutes, and appeared to be increasing in frequency and intensity. The patient was given Tinct. Belladonnæ m. xv., and chloral hydrate grain xv. every two hours, and a sinapism was applied over the solar plexus; the bowels were acted on with croton oil, micturition was performed naturally, a gag was kept between the jaws and nourishment given as often as possible. At the end of the fourth week the spasms had completely left him and the patient made a good recovery.

THE DENTAL ASSOCIATION OF GREAT BRITAIN.

This Association corresponds to our Odontological Society. Its promoters have succeeded in passing a law regulating the affairs of the profession similar to that we are endeavouring to obtain here. We refer those who are interested in this question to the *Monthly Review*, from which they will learn the scope and objects of the Society, and to the *British Dental Register*, which contains the Dental Act.

A general meeting of the Dental Association of Great Britain was held on the 26th of July last, when a large number of Members assembled under the presidency of Mr. Thomas Rogers, to convey their gratitude and thanks to the illustrious and eminent J. Tomes, and to his energetic and devoted colleague in the work of reforming the profession in England,

Mr. Turner. The President, on behalf of the profession, begged each of them to accept a well merited *souvenir* in remembrance of the noble work in which they had been so successfully engaged. Mr. Tomes received a portrait of himself, painted by an eminent artist, and Mr. Turner a valuable clock, with a cheque for 350 guineas.—*Gazette Odontologique*.

EDINBURGH DENTAL HOSPITAL AND SCHOOL.

The introductory lecture at the opening of the winter session of the Edinburgh Dental Hospital and School was delivered last night in the School, 30, Chambers Street, by Mr. W. B. Macleod, L.D.S., lecturer in dental mechanics. He began by comparing the advantages which the student of dental surgery had at present with those of a number of years ago, and cautioned his hearers not to mistake the opportunity for the possession. He showed that to have a thorough knowledge of dentistry an acquaintance with anatomy, physiology, and surgery was necessary. Speaking of mechanical dentistry, he said they ought not to rest content with only a theoretical knowledge of that department, but that practice was the only way to be able to treat the patient properly and to know when a patient was properly treated. The lecturer then proceeded to give a definite idea of what was included in the term mechanical dentistry, and said the three functions of the teeth were expression, articulation, and mastication—the first being æsthetic, and the second and third utilitarian. At the close Dr. Smith proposed that the lecture should be printed and circulated among the students.

ODONTO-CHIRURGICAL SOCIETY OF SCOTLAND.

This Society opens for the Session 1880-1, on Thursday, the 11th of November, under the presidency of Walter Campbell, L.D.S., of Dundee.

We are informed by the Secretary that the coming meetings promise to be of unusual interest and activity. Already several members have agreed to read papers on practical subjects and others have promised to furnish notes of incidents in practice, and what is of no less importance, it is anticipated that arrangements may be concluded whereby one or more clinics may be given during the session. Besides the ordinary meetings, arrangements have been made for members meeting every Thursday evening to read and discuss the special articles in the Dental and Medical Journals, &c. These weekly re-unions will afford excellent opportunities to non-resident members when visiting Edinburgh of meeting on common ground with their City brethren, and passing a pleasant and instructive evening with professional confrères. It is at such informal gatherings as these that professional acquaintance is ripened into private friendship, and valuable information from public and private practice obtained. We would urge all our Scotch brethren at home and abroad to associate themselves with the Odonto-Chirurgical. The

Constitution has been lately revised, and the terms of membership adjusted to existing circumstances. All particulars may be learnt from the Hon. Secretary, W. Bowman Macleod, 43, George Square, Edinburgh.

THE DIRECT APPLICATION OF OXYGEN TO ULCERATING SURFACES.

Dr. Goolden advocates this plan in the *Lancet* of October, 1879, and quotes two cases. The first was a case of Phagedænic Ulceration of the Throat, supposed to be syphilitic in origin. The disease spread quickly, and in a few days most of the soft palate was destroyed. What remained of it was bright crimson with raised edges, and discharged dirty cream coloured pus. The breath was offensive, and the patient could neither speak intelligibly nor swallow liquid, which regurgitated through the nose. Dr. Goolden caused the patient to inhale pure oxygen with excellent results; the disease was arrested, the wound healed, and in a fortnight a metallic palate was arranged for the patient. The second case was similar and equally satisfactory. The oxygen may be prepared without heating, by mixing permanganate of potash and peroxide of hydrogen. The bottle containing the latter must be kept cool and in the dark, as light or heat decompose it.

THE DENTAL HOSPITAL OF LONDON.

The annual dinner of the past and present students of the Dental Hospital of London will be held on Tuesday, December 7th, at St. James's Hall, Regent Street, when the chair will be taken by Robert Hepburn, Esq. Gentlemen, either now or formerly connected with the Medical School, who may through inadvertence not have received special notice, and who desire to be present, are requested to communicate with the Dean, F. K. Underwood, Dental Hospital, Leicester Square, W.

MR. COTTAM, of Oswestry, was admitted a Licentiate in Dental Surgery, R.S.C.I., on October 12.

WE are requested to state that Mr. Thomas Gaddes, who has so long taken an important part in the Editorship of the the "DENTAL REVIEW," has ceased to be connected with the same.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE MONTHLY REVIEW

OF

DENTAL SURGERY:

THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

No. X.

DECEMBER, 1880.

Vol. I.

WHEN you have no case, abuse your opponent, is a rule of action very generally observed, and it must be a source of gratification to the promoters of the Dental Reform movement that those whom they have failed to carry with them in it, find no better means of attack than a steady misrepresentation of their aims and their results. Amongst the stones most frequently thrown, was the allegation that the measures proposed and carried would infallibly widely separate the dental from other sections of the medical profession, and, notwithstanding complete refutation, the statement has been many times, and indeed still is, reiterated. But, more chary of words than their opponents, the leaders of the Dental Reform movement have devoted their energies to deeds, and have gone on quietly and steadily with the task of developing and consolidating their work. And it may be considered the fair outcome of the disinterested good work done in the Dental Profession, that now, for the first time, the position of Dental Surgery has been recognised by its having a section accorded to it in the International Medical Congress, which is to be held next year in London. Such is a result of the policy which was to separate us more and

more widely from the general medical body, and it stands a fact that will outweigh not a few words to the contrary.

International Medical Congresses have been held in Paris, in Florence, in Vienna, in Brussels, in Geneva, and in Amsterdam; and no endeavour will be spared to make the London Congress of next August, which will be held under the presidency of Sir James Paget, compare favourably with its predecessors. The session of the Congress will extend over a week, and its fifteen different sections will be all accommodated in Burlington House, and in addition to the business of the Congress, there will be social gatherings in the shape of excursions and evening receptions. In order that the meetings may be fruitful in their results, it has been decided to settle upon a certain number of subjects, the full discussion of which may be secured by members of the Congress undertaking to write and speak upon them. But although special care will be taken to ensure that certain points shall be profitably discussed, papers on any other branches of the subjects fairly referable to the section will be received, and, after being read, discussed, so that it must not be supposed that the provisional programme published at another page, will in any way exclude other matter for consideration. Already promises of papers, and, still better, of their presence in person, have been received from many of our continental and American confrères, and it is to be hoped that such earnest support may be given to our section at home, that we may abundantly justify the decision which has accorded to us a special section, by making the report of our proceedings bear favourable comparison with those of the other sections when they come to be published in the Transactions of the Congress. And while we look forward to a meeting full of interest and of pleasure, it is no slight matter of congratulation that in the year now fast drawing to its close,

Dental Surgery has received its first formal recognition at the hands of the medical profession, by the formation of section XII. devoted to "The diseases of the Teeth," in the first International Medical Congress ever held in England.

On the Heterodont Dentition of some Reptiles.

IN a late number of Carus' "Zoologischer Anzeiger" (page 493), Professor Wiedersheim states that he is able to extend the presence of this arrangement from the fossil forms (South African Triassic *Rhynchosaurs*), in which it was first noticed by Professor Owen, to the Agamas among living reptiles; in the intermaxillary there are four small incisors, and in the lower jaw there are two; these are succeeded by a pretty large tearing tooth, and this by six very small and sharp denticles. In the upper jaw these last gradually pass into seven stronger and much broader teeth; in the lower there is a sudden increase in size of the (eight) succeeding. All the teeth behind the laciniary one, form broad flat lamellæ, and present no indications of any broad molar crowns. The species of the animal in which this arrangement was detected has not been made out.

In the course of a description* of that interesting Sirenoid Fish *Lepidosiren*, Professor Wiedersheim notices, in the anterior region of the skull, a cartilage with three pairs of processes, and, on its lower surface two sharp teeth; this cartilage he regards as the most primitive rudiment of the premaxillæ, or rather their cartilaginous predecessors, inasmuch as the teeth are the only parts of the process which have undergone ossification. This lowly condition appears to the author to afford considerable support to Hertwig's well-known theory as to the genesis of the investing bones of the oral cavity.

On the Replantation of Teeth—a Case in Practice.

By J. RENSHAW, L.D.S., R.C.S.

As the subject of the Replantation of Teeth, has recently taken up much of the attention of some of the members of our profes-

* *Jenaische Zeitschrift*, xiv. page. 163.

sion, perhaps the following case which came under my own notice, may prove of some little interest.

About two years ago, a gentleman æt. about 40 years, consulted me with reference to an upper left canine, which was giving him a great amount of trouble. I examined the mouth and found the biting surface of the said tooth worn down to the pulp canal, by its antagonism with the lower teeth. As the tooth was otherwise sound, and of great service in retaining a platina dentine in position, I strongly advised extraction and replantation. The patient acquiesced. I extracted the tooth, shortened the root $\frac{1}{8}$ in., took out the pulp, drilled out pulp canal, and filled it up with osteo. I afterwards immersed it in warm water, wiped it clean, cleansed the socket, and introduced it again in its place.

The operation of re-insertion was a very painful one, causing a great amount of soreness for the rest of the day. The tooth gradually fastened, and has done good service until recently. I saw the patient a few months ago, when I found that the biting surface had continued to wear away, otherwise the tooth was good, quite firm, and looking well. I saw him again a few days ago, when he informed me that he had recently been compelled to have the tooth removed, as it had again become a source of great annoyance to him. On its removal, he noticed (to use his own phraseology) "a bag containing something white covering the end of the root." All pain ceased after its extraction. I was the more astonished at the presence of an alveolar abscess, inasmuch as the periosteum and pulp were removed, the pulp canal filled with osteo, and the fang shortened. I should have expected that the loss of the tooth would have been occasioned by its expulsion from the gum as a foreign body, instead of what actually took place.

I have had several other cases of replantation, but the foregoing has been the most successful.

How shall Congenital Cleft Palate be Treated?

By W. A. HUNT, L.R.C.P., Lond., &c.

THIS is a question of great interest to those called upon to relieve this malformation, and of yet greater interest to the unfortunate sufferers.

My remarks will be of a practical nature; many of the

opinions I shall advance are not new; but I wish to draw attention to their value, and although they are in conflict with those of many high authorities on this subject, yet time has so tested them that many have ceased to be mere opinions, and must now be regarded as facts. I shall speak only of clefts, whether in soft or hard palate, or both, of sufficient magnitude to impair any or all of the functions of deglutition, mastication, or speech. These functions I perhaps mention in the inverse order of importance, for in treating the subject it is better to work from simple to complex than the reverse.

De-glutition, of course, *must* be performed from the earliest date, and the regurgitation of liquids through the nose is often the first symptom by which cleft palate is discovered, the child usually suffers from want of nourishment; but soon is found a way for obviating this difficulty, and after a few years it is surprising how the organs of deglutition accommodate themselves, so that the child can swallow well, and indeed, nasal regurgitation seldom occurs except when from the flexed position of the head the floor of the nostrils is nearly vertical.

Next, mastication; in consequence of the tongue from the absence of the palatal vault being unable to decide by sensation whether the food has been perfectly crushed, large irregular portions that have entirely escaped the teeth are swallowed constantly; the proof is always present if one examines the meal that has been vomited by a patient the subject of any considerable cleft.

Lastly, speech; it will be well here to observe that the pharynx is responsible for the voice and the number of vibrations in a given time on which the vocal pitch, &c., is dependent; but that speech is formed out of the sounds delivered from the larynx, that it is a complex thing and cannot occur unless the requisite machinery for its production be present. In the cases under consideration much of this machinery is absent.

How are these defects to be best remedied? The orthodox and stereotyped answer is—pare the edges of

the cleft and stitch them together; if the tissue is scanty, divide any muscles that may tend to separate the edges in the soft palate, and in the hard palate by means of the chisel make parallel clefts (which shall afterwards fill up with new tissue) and force into approximation the bony edges. We will suppose by these means the treatment is a perfect surgical success, and operators have become so skilful that such surgical success is now generally accomplished, and the operation is by no means so uncertain as it once was. Deglutition and mastication are now materially improved, and thus far your patient has good reason to be grateful; but, so far as the speech is concerned, the operation, in by far the *majority* of cases, is a physiological failure. It was, too, the earnest wish of your patient to be able to speak so as to be understood by his fellow men, to be able to transact the business of everyday life, and appear in society, that chiefly induced him to submit to your knife; this result is vexatious—very. What is the reason that his speech is still twangy, unintelligible, atrocious? when, to all appearance, the cleft is beautifully closed, the palate looks perfect, and it really needs a close inspection perhaps to discover the site of the join or the stitches. A brief examination of the literature of cleft palate will throw much light on the question; the experience of all operators in the past is borne out, too, by the operators of to-day, one and all have met the same difficulties.

It was in 1819 that Roux, the great Parisian Surgeon, operated successfully on a medical student suffering from this deformity, and so difficult was it found that Roux perhaps was almost alone in performing it. It is said that he operated on 120 cases, and his failures were one in every three. In 1840, tenotomy and myotomy were introduced, and the then Mr. Fergusson, remembering a dissection of a case of cleft palate he had made ten years previously, practised and recommended division of the levator palati, and palato-glossus muscles. About the same time Dr. Warren, of Boston, and Dr. Mütter, of Philadelphia,

were achieving greater success with this operation than that obtained by Roux, for they had adopted lateral incisions to relieve the tension of the stitches. But to the late Sir W. Fergusson is due the credit of definitely pointing out the proper muscles to divide to obtain the needful relaxation. In 1870, Sir William says, that out of 200 cases he had had but five or six failures. Operators of to-day, in like manner, have to use all expedients to obviate this strain on the stitches, so that union shall take place. Now, these remarks must surely lead to one general deduction which cannot be evaded, viz.: that in cleft palate the surgeon is in want of tissue, and must resort to many expedients before he can hope to close the cleft by operation. Again, I take it I am making a fair statement when I say, that, the wider the cleft, the greater the want of tissue is felt in bringing the edges to a junction, and, therefore, the tighter strained is the new palate.

The wider the cleft the worse the speech; hence—where your patient most urgently wants improved speech the tighter and the more unyielding is the new palate you have to offer him by operation.

So far as I am aware, all surgeons who have had much experience with this operation in this country, in France and Europe generally, and notably in America, confess to a greater or less degree a physiological failure whilst claiming a surgical success. Referring again to the late Sir W. Fergusson who had such a reputation in these cases, and who, by his suggestions, had made the operation possible to all fairly skilful surgeons throughout the world; it was natural, I say, that he should look with an indulgent eye on the results of his surgical treatment; yet what does he himself say at the end of his third lecture before the Royal College of Surgeons, in 1864. "The tone of the voice is at once perceived to be changed for the better, in the course of eight or ten days when the fever and distress following the operation is gone. Improved articulation, however, comes more slowly. *Years,*

many years are required for distinct articulation, when the whole organs are, to all appearance, in perfection, and after the most successful operation for cleft palate, months and years are required to alter defective sounds. Voice and speech have to be modified anew. With some the changes come slowly and sluggishly, but with others they are so rapid and perfect that in a few years the original defect cannot be detected except by a practised ear." I have never heard of any accomplished operators who do not admit to some extent this physiological failure. From those who have had the greatest experience come the most admissions of failures in giving the patient what he really needs most, viz.: the power of speech that shall be intelligible. Disagreeable statements are these; but truth had better be faced, and feeling that the profession, as a body, have not sufficiently considered the matter, I wish to draw their attention to certain points.

First, why this failure of speech after a perfect surgical operation?

Because—

a. The *tension* of the new soft palate unfits it for modifying the vocal vibrations.

b. The tension prevents that wide range of motion enjoyed by the normal palate.

c. The muscles which should exert a considerable influence on the new palate, even if it were mobile, are divided, and have found new and probably disadvantageous attachments.

d. And lastly, but most cogent reason of all, which no surgical procedure, so far as is known, can ever conquer—the new, soft palate either from its shortness, or its tension, or both, can by no possibility be raised backwards and upwards like the normal soft palate, so that its posterior edge shall rest against the back wall of the pharynx whenever needed.

(*To be continued*).

Nitrous Oxide as an Anæsthetic in Dentistry.

(Abstract of a paper read before the Odonto-Chirurgical Society, Nov. 4th, 1880.)

By W. H. WILLIAMSON, M.D., D.D.S., Aberdeen.

MR. WILLIAMSON disclaims any intention of ventilating new facts, his object being rather to provoke a discussion of the practical points of the subject. He urges the great saving of expense attained by the practitioner making his own gas, though quite alive to the fact that much trouble may be saved by purchasing it. The gas made by the practitioner from the ordinary granulated nitrate of ammonia, costing, all told, about 1d. per gallon; the liquid gas three times as much. He recommends the apparatus described by Turnbull in his manual, as the best for making it. He considers that headache often follows the use of Clover's supplemental bag, owing to the amount of carbonic acid accumulated by the rebreathing without purification.

Mr. Williamson expresses a strong belief that there is little danger attending the administration of nitrous oxide (except in very extensive heart or lung disease) when the administration is sufficiently thorough to avoid all possibility of shock. In the case of weak and debilitated females, Mr. Williamson advocates the administration of a teaspoonful of aromatic spirit of ammonia before the administration, but considers it is rarely necessary to unlace corsets, or create any fuss which may unduly excite the patient, and is hardly ever required.

As to the method of inhalation, the writer is of opinion that it should be discontinued just before the catch or gulp in the respiration which appears at a late stage; the respiration should be watched with attention.

He recommends the importance of having all apparatus, instruments, &c., at hand, of laying a definite plan of procedure in long operations, and extracting lower before upper teeth so that the bleeding may not obscure the view. He prefers hawksbill to straight forceps for lower molars; with very hollow teeth he fills them with amalgam

previous to extraction; and divides any gum which may overlap buried stumps with a lancet. In an extensive experience Mr. Williamson had never met with any serious symptoms—a little faintness, hysteria, vomiting, and in some cases an idiosyncrasy which prevented the satisfactory administration of the anæsthetic. The writer has not formed any conclusion with regard to the effect of stimulants taken freely beforehand, but regards the subject as not definitely determined. He regards the nitrous oxide as the safest anæsthetic known, and considers that no qualified man need shrink from administering it when he considers it desirable.

Notes on Nitrous Oxide Gas.

Read before a Meeting of the Midland Counties Branch of the British Dental Association, held in Manchester, October, 1880.

BY H. MARSH, L.D.S.

MR. PRESIDENT and GENTLEMEN,—Nitrogen Monoxide or nitrous oxide gas is an agent of so much use to the Dental-Surgeon, that but few operating rooms are now to be found in this country without some appliance or gasometer in them *ready* to administer the gas the instant it is required. And this result is due partly to the confidence which is placed in the anæsthetic itself by a grateful public who have now for some years enjoyed immunity from pain during the extraction of teeth by inhaling it, *and partly* to the enterprise and skill of our manufacturers, who can supply it in the liquified form in the neat and compact iron bottles of 50 and 100 gallons capacity, thereby saving to the busy practitioner an amount of time and expense that only those who have tried to make their own gas can form any idea of. But the history of the gas, and also of its manufacture, has been well and ably told by so many competent authorities in our journals of late years that more on the subject is unnecessary. Therefore, let us first consider the question so often asked by patients, “How does the gas act upon the system?” or, to put it in other words, “What is the physiological action of nitrous oxide gas?” Some authorities hold the belief that the gas never produces true anæsthesia, and also affirm that the term anæsthetic should not be applied to it. They urge the following proofs in support of their argument, that, firstly, the gas reduces the

cerebro-spinal, or general nervous system to a state of insensibility in no way analogous to the generally recognised anæsthetics; and, secondly, that it differs from them in constitution. But while we readily concede these two points, still I, for one, fail to see why the mere name is refused, and, as one of our best medical dictionaries used the word to define "any agent which, when received into the lungs in the form of vapour or gas, *prevents feeling*," which the *gas does do*, therefore, I shall use and apply the term anæsthetic as it is commonly understood amongst us, to the gas, throughout these notes.

There are two opposite views held upon the action of the gas, some authorities stating "that nitrous oxide gas usually augments general and special sensibility, both during and after its administration." Moreover, they also say, "instead of retarding, it increases both directly and indirectly, the oxydation of the blood, stimulates the cerebral, nervous and muscular organs, promotes contractility, and general cell and vital action, and thus acts as a true tonic." This view is held by some eminent American writers, and by Dr. Colton amongst them, who says, "Nitrous oxide produces hyper-oxygenation of the blood (in paper read on the "Physiological Action of N_2O Gas," at Philadelphia, 1871), yet he says, "that in an atmosphere of the gas a mouse lives only from 30 to 60 seconds, a pigeon 1 to 2 minutes, a frog 30 to 60 minutes, *all dying of asphyxia*." Surely, then (as Dr. Wood tersely remarks), "the absurdity of maintaining that the effects of the gas are due to increased oxydation needs no comment." Dr. Amory proved by experiments that during nitrous oxide narcosis, the carbonic acid exhaled from the lungs was only two-thirds the amount of that before inhalation, and that after recovery less than one-third the normal amount of carbonic acid is given off. If nitrous oxide, therefore, increased oxydation of the blood, we should naturally expect *no diminution*, but an *excess of carbonic acid*. The other opinion is that the "gas acts by preventing oxydation of nervous centres, principally by depriving the blood of its proper supply of free oxygen in the lungs." This opinion is held by Mr. Clover and many others on both sides of the Atlantic. Nitrous oxide is composed of two volumes of nitrogen and one volume of oxygen gas chemically combined, and it seems to *preserve its chemical form in the body*, and does *not* yield up its oxygen so as to support life, as one would at first imagine it would do, the compound of nitrogen and oxygen remaining a stable one. Seeds will not germinate in nitrous oxide, and animals, such as rabbits, guinea pigs, frogs, sparrows, &c., live no longer in an at-

mosphere of pure nitrous oxide than they do in one of nitrogen alone.

Some French experimentalists, MM. Jolyet and T. Blanche affirm "that nitrous oxide has no effect on the system," and this theory has long been regarded as the true one; the series of facts which they have proved by experiments, and upon which their conclusions are based, are,

Firstly, animals live no longer in nitrous oxide than in nitrogen.

Secondly, anæsthesia occurs at the time the blood of the animal *becomes black*.

Thirdly, animals breathing an air containing 60 to 80 per cent. of nitrous oxide and 20 to 40 per cent. of oxygen are unaffected, and,

Fourthly, the analysis of the blood of two dogs yielded the following result :—

	No. 1. Conscious Dog.		No. 2. Unconscious Dog.
Carbonic Acid...	46· per cent.	...	36·6 per cent.
Nitrous Oxide...	29· "	...	34·6 "
Oxygen ...	19·7 "	...	3·3 "

Thus showing that coma was not developed until the oxygen in the blood was reduced to 3 or 4 per cent. ; therefore, anæsthesia is not due to the presence of carbonic acid in the liquor sanguinis, as 10 per cent. more of it is found in the blood of the conscious dog than of the unconscious one, but is due rather to the decrease of the oxygen, which is very marked. These experiments have been verified by Mr. Elihu Thompson, who says (in the *Philadelphia Medical Times*, of November 13th, 1873), he found that hydrogen, nitrogen and nitrous oxide, as well as a *vacuum*, are rendered capable of supporting life if a proportion of oxygen approaching that existing in common air be introduced as well. What then is the action of the gas upon the system? "Is it not a neat way of stopping the supply of oxygen, and so inducing *asphyxia*, though the fact of its producing in man (when diluted with air) a feeling of exhilaration indicates that it is not merely a passive agent."

Dr. Amory (*New York Medical Journal*, 1870) has proved by experiment that during the period of unconsciousness the cerebral *pulsations* were *decidedly lessened*, and finally abolished, although the cerebral *pressure* was *increased*. This seems to prove that the capillary cerebral circulation is checked, and, finally, arrested, but that the amount of blood in the cerebrum is not lessened." (Dr. Wood : "A Treatise on Therapeutics"). This was ascertained by placing a cerebrometer in the skull of a dog while

administering the gas. He also remarks that upon the conducting power of the motor nerves nitrous oxide exerts very little or no influence. This is well proved by the frequent exhibition of muscular rigidity, both during and after gas administration, which so many patients exhibit, but there is one peculiar form, termed *opisthotonos*, which has often puzzled me, as I have never seen it referred to in any work on the gas, and which is remarkable for the *curve backwards* the body assumes; in some instances, the back of the patient's *head* on the head-rest of the chair, and their *heels* on the footstool, form the only points of support, the body raised from the chair entirely, and balanced in this manner, presents a very peculiar appearance. One family of patients exhibit this tendency in every individual member when under the gas. Chloroform does occasionally produce this species of tetanus, but with nothing like the frequency the gas does. Why is this? Can any gentleman present quote similar cases, and offer any solution of this question; or, are we to conclude that, according to the *nerve theory* of Hughlings Jackson, nitrous oxide has a direct action on the *cerebellum* of such patients as exhibit this characteristic under its influence. In patients subject to epilepsy and mania this frequently occurs. When in the operating room, patients frequently ask us, "What is your opinion of the gas? Is it dangerous to breathe, &c., &c.?" When thus addressed, my reply is that I consider the gas the safest and best anæsthetic for short operations that has ever been brought into existence. Others again ask, "Do I run any risk by taking it?" "Certainly you do; but you have run a much greater risk in coming here of being killed in the railway train, or in the streets, than you would by taking the gas a dozen times over." What is the percentage of deaths in the now hundreds of thousands of administrations of gas, compared with that of chloroform or æther for example? That deaths have occurred during the administration of gas *we*, unfortunately, know only too well, but are they to interfere, and cause us to give up gas entirely? *Certainly not*; but let us ever remember that we need every faculty to be on the alert when giving gas, and be especially charitable to our professional brethren who do meet with untoward accident, not knowing how soon we may need charity to be shown to us. Several years ago a gentleman promised to visit me on a Monday morning, for the purpose of having some fangs removed under the influence of the gas. As he did not come up to time, I concluded his natural timidity had prevented his putting in an appearance, but several weeks after his sister came to tell me that, at 8 a.m. that

Monday morning he was found DEAD in bed. He was known to suffer from heart-disease, which had, in fact, caused his sudden death. Now, Sir, supposing this death had occurred just three hours later, and that gas had been given! What would have been said? The gas had caused it, by some; the gas had helped to cause it, or else such a result would not have occurred so soon, &c., &c., by others, and thus a *perfectly different cause* to the *real one* would have had the blame. I do think that, as in chloroform, FEAR has produced fatal results before the anæsthetic has begun its operation; so, also, it has done at least in *one case*, if not more, where the nitrous oxide is blamed for the fatal result, and as a *factor*, productive of death. I am inclined to believe it is not sufficiently recognised in cases where anæsthesia is produced and surgical operations undertaken. Tooth extraction, as a rule, being worse dreaded than anything else; for corroboration of this fact, we have all been told by patients, I suppose, that (to use the words of a gentleman who had broken his arm), "I would rather have my arm set three times over than have *one tooth* out;" or, we, hear a lady say, "I would rather be confined ten times, than *have to have it* (the tooth) extracted." Now, is there really any comparison between the one and the other pain or operation? Surely not. Then why this dread and fear of it comes one cannot understand.

(To be Continued.)

Has Vaccination anything to do with the Degeneration of the Human Teeth?

Paper read at the Midland Counties Branch of the British Dental Association.

By F. RICHARDSON, L.D.S.

"Has Vaccination anything to do with the degeneration of the human teeth?" is a question which if once raised, ought not to be permitted to rest until it has been conclusively answered, either in the affirmative or negative. To us as dentists, the subject possesses so much of novelty, that beyond a pamphlet published a few years ago by Mr. Albert Carter, it has not, so far as I am aware, attracted even the passing attention of any member of our profession. And this is the more remarkable, because were the subject of vaccination now brought forward for the first time, we may feel very certain that it would not be allowed to become the accomplished fact we find it at this day, until its possible influence upon the teeth had been thoroughly investigated.

Nearly one hundred years ago, Jenner's famous theory was first announced to the world. In those days both dentists and doctors were almost equally in the dark respecting the origin of the teeth. It is only within the last fifty years that their histology and development have been satisfactorily investigated, and now there are few portions of the human frame, better understood than the dental organs.

Assuming then that this question has never been entertained, and seeing, moreover, that the knowledge and information now within our reach, is so far in advance of that which existed at the close of the last century, it is surely incumbent upon us as a body, to take up the subject as it was left a hundred years ago, and investigate it under the more enlightened conditions of the present day.

In considering this subject, there are three well-known facts that require to be kept in view, namely,—that the teeth are dermal appendages,—that their first germs are discernable at a very early period of foetal existence,—and that in its primitive stage, each tooth is in the condition of a soft impressible mass.

At birth and for some time after, nature is more busily engaged in developing the different organs, and building up the framework of our complex bodies, than at any subsequent period. And surely if there is a time when she requires to be left to her own devices, it is this; and the most obvious mode of conforming to her requirements, is to interfere with her as little as possible, and to keep the infant in as perfect a state of repose, as its age and surrounding circumstances will admit of. This, I think, must be self-evident and conclusive; yet what do we find? Why, that at this most critical period of its existence, the law steps in and decrees that before this child, fresh from the hand of its Maker, is fit to take its place in the world, it shall first be subjected to an operation, the effect of which is to throw the whole system into a state of turmoil and confusion, occasionally terminating in death.

The *virus* or *poison* thus introduced into the system (whereby an *implied* omission on the part of the Creator is satisfactorily rectified), developes into the well-known vaccinia or cow-pock, which with measles, scarlet fever, small pox, &c., forms a class of skin affections belonging to the zymotic or blood-poisoning group, the specific action of which consists in producing a change in the blood analogous to fermentation.

That certain of the exanthemata should exert a baneful effect

upon the teeth is not to be wondered at, considering the close relationship existing between the latter and the skin. Thus we find that one of the sequelæ of scarlatina consists in the exfoliation of portions of the alveolar border, containing, it may be, some of the developing permanent teeth; and to measles is in part accredited the occurrence of honeycombed teeth, where we find both enamel and dentine more or less disorganized, and consequently more susceptible to adverse influences than those which are more perfectly developed. Externally the crown is more or less distorted from its normal shape, the enamel is deficient both in quantity and quality (indicating an arrest of development and nutrition), is frequently pitted and often porous and fragile in character. Internally, we find interglobular spaces, while the tubuli are irregular both in size and arrangement.

Now, seeing that two of this class of disorders are capable of producing such results, surely there can be no reason why another so closely allied as vaccinia should not at least be suspected of a similar evil influence; and I venture to think that the following case which occurred recently in my own practice, points unmistakably to this and no other conclusion.

A few months ago, a lady called upon me with four of her children, whose teeth she wished me to examine. Three of them may be dismissed with the remark that they all had been vaccinated, and in all the permanent teeth were badly honeycombed. In the case of the fourth (a boy), a very different state of things existed. Here it was the *temporary* teeth that were honeycombed which I now exhibit; the permanent set, so far as they were developed, being perfection itself. On making a few enquiries of the mother, she informed me that some months before the child was born, she, when under the influence of one of the usual periodical scares, allowed herself to be re-vaccinated. Hence, on the assumption that the operation was the cause of the honeycombing of the child's temporary teeth, it would appear that special inflammations *may* occur during the period of inter uterine existence. After birth, the operation of vaccination was three times attempted upon the child, but as the mother said, "it would not take."

There are a few facts connected with this case which, I think, deserve careful consideration.

- 1st. Three of the children had been vaccinated in the usual manner, and all had honeycombed teeth.

2nd. The fourth was not vaccinated, and his *permanent* teeth were perfect.

3rd. The mother had been vaccinated while the child was *in utero*. The child's *temporary* teeth were extensively honeycombed.

4th. Vaccination although three times attempted upon this child, failed each time, presumably because the influence of that which he received through his mother was still sufficient to render the operation abortive.

I therefore can come to no other conclusion than this, namely:— that the Vaccination performed upon the mother previous to the birth of her child, was the direct cause of its temporary teeth being honeycombed. And if this is the correct explanation, and indirect Vaccination can so clearly assert itself, surely its influence would not be less potent when exerted after birth.

I venture to think this case points to but one conclusion ; namely that the deformity was the direct result of vaccination.

Time and the limits of my paper will not permit more than a statement of these facts, and I prefer leaving to better hands than mine the discussion which I think they deserve.

With regard to vaccination itself, and looking at it from a purely professional point of view, I venture to think it is an operation, that out of regard to its possible influence upon the teeth, may well be postponed till later in life. Even assuming that it is a protection against small pox, surely all other considerations ought not to be ignored for the sake of this one. Beside the danger of a child, surrounded by proper sanitary conditions, being attacked by small pox, is surely a very remote contingency, whereas vaccination is direct and immediate. For it seems impossible that the number of infants who suffer from measles, or other serious ailments, before they are three months old (when the vaccination laws first assert their authority over them), is such as would account for even a fraction of the cases of honeycombed teeth which constantly fall under our notice. In many instances we are told, either that the child never had a day's illness *beyond what is usual after vaccination*, or else that he was attacked at an age when we know that even the six-year-old molar is too far developed to exhibit any *external* traces of adverse influences.

Let us then as dentists, acting in the interests of our patients, look well into this matter, so that when the whole subject of vaccination comes on for discussion "in another place" (as there

is every probability that it will), we as a body may *this time*, have something to say about it, and perhaps our voice may be the means of deciding whether for the future our babies are to be “fermented” according to Act of Parliament, or whether they are to remain unleavened as God sent them.

Administration of Anæsthetics.

BY WOODHOUSE BRAINE, F.R.C.S.

I FEEL sure that a few cases of anæsthesia, the anæsthetic being given by the method I adopt, will lead Mr. Williams to qualify the opinions expressed in his letter published in the journal of November 13th.

When Dr. Joy Jeffries came to England, and demonstrated the fact that ether could produce anæsthesia as perfectly, and almost as quickly, as chloroform, his custom was to “crowd on” the ether; and, having his patients forcibly held by assistants, to render them insensible, *citó, tutó*, but most assuredly not *jucundé*.

If the patient be made to inhale a small amount of ether rapidly, the nerve-centres are very quickly brought under subjection, and the patient recovers rapidly; and with much less of that haziness and sluggishness of intellect which always takes place when they are a long time becoming unconscious. I think Mr. Williams will agree with me in this proposition—viz.: that, given the same amount of insensibility for any definite time, the smaller the quantity of ether inhaled the better. Let this point be conceded; he will then find that the quickest, and, in my opinion, the best, method of giving ether is to administer nitrous oxide till the patient is completely anæsthetised, and then to change the face-piece without allowing the inhalation of any air whatever. During the first few respirations, the larynx resents the ether-vapour, and they are somewhat jerky and spasmodic; but the larynx soon becomes accustomed to the irritant, the breathing becomes full, easy, and regular, and there is a complete absence of struggling. When the struggling does occur, the movements are generally referable to dreams which the patient is having; and, when he wishes to alter the position of his limbs, or to sit up, in pursuance of the nature of his dream, forcible prevention only makes him struggle more violently to accomplish his object, which, if effected in the first place, would have had no practical result, and he would have dropped back into the former recumbent position of his own

accord. Should this struggling take place, no attempt should be made to hold the patient in any one position ; his limbs should be allowed to move about freely, and he should be permitted to sit up, if he desire to do so—only preventing him from pulling off the face-piece.

But, in addition to the trouble saved by not having to hold a patient, the risk of a fatal result, especially when administering chloroform, is much less ; for, if the patient be allowed to move freely, the heart has comparatively little work to do, compared with the strain on it which exists when it has to drive a column of blood through vessels which have rigid muscles on each side of them ; and, again, this very struggling increases the venous flow, and tends to gorge the heart with venous blood.

There is one other point in the discussion that does not seem to have attracted the attention that, I think, it deserves ; and that is, the time in the day at which the operation is performed. I feel convinced that all patients take anæsthetics better the earlier in the day they are given ; and I look on from 8 a.m. to 9.30 a.m. as the best time—for then the patient's stomach is empty, digestion having been performed when the patient has been asleep, and the patient has not been awake long enough to become very nervous, and to feel the want of food, and so be faint. In a very nervous patient, who did not sleep the previous night, I have known food vomited in exactly the same condition in which it has been swallowed twenty-eight hours previously.—*British Medical Journal*.

Notes on a Case of Pyæmia from Alveolar Abscess.

By G. W. WATSON, L.D.S., Ed.

Read before the Odonto-Chirurgical Society, November 11th, 1880.

I WOULD preface these notes by a few remarks on the pathology of pyæmia. The name pyæmia was originally intended to mean (as it does etymologically) the presence of pus in the blood. It being supposed that when suppuration occurred in one part of the body, pus made its way into the veins, and was thus distributed to various other parts, where it was deposited, hence the familiar surgical term secondary deposits. That actual pus does enter the blood is not now believed, though it is almost necessary to assume that some materies morbi, whether derived from inflammation or not, does enter the blood. Pyæmia is a disease very similar to

septicæmia, differing, however, in this respect, that in pyæmia you have always as an accompaniment localised abscess, the disease, according to most recent authorities, being produced by the action of vegetable organisms—microsporon septicum, bacterium, &c.; whereas in septicæmia there is seldom localised abscess present, while sepsin, the poison which led to septicæmia, is produced by the action of animal organisms—bacteria, vibrio, &c. The general conclusions to draw from this is that pyæmia is a disease produced by parasitic vegetable organisms, either self-generated or introduced from without.

A man, married, æt. 28, garden labourer, County Down, Ireland, abscess on right lower jaw.

History.—Duration of present illness about ten days; cause, *faulty management* of decayed wisdom tooth. General state of health; appears somewhat emaciated from *want of food*, &c. Previous ailments; toothache, colds, nothing more serious than measles. Habits: good. Father and one brother dead. Mother, six brothers and sisters living. Has one child.

Previous treatment.—Lancing inside mouth.

Present state, local.—(a) Patient's statement; has a swelling on the right side of inferior maxilla, due to a decayed wisdom tooth, which had been partially extracted; the jaw so stiff and painful that he cannot speak; matter oozes from the neighbourhood of the tooth into his mouth. (b) Result of examination guided by sight and touch—an abscess in connection with a portion of jaw that had necrosed.

General.—Temperature and pulse rather high. Range of pulse and temperature during illness: pulse 110 to 120; temp. 99° to 101·2°.

Treatment (operative).—On the 28th January abscess was opened externally, and thus the interior of the mouth was put in communication with the external air through the sinus in the neighbourhood of the tooth. On the 29th a drainage tube was passed from the outside of the cheek through the abscess cavity and into the mouth. The wound was now daily syringed with boracic lotion, and after a few days this was done morning and evening. Hot fomentations were also applied. The wound began to require three or four dressings daily from February the 5th. On the evening of that day the pus was seen to be burrowing down the neck, and a second incision was made to give a counter opening at a lower point, which could be irrigated by means of the india-

rubber syringe. On the 7th the pus was so putrid that the wound had to be cleaned with 1 in 40 carbolic lotion, and boracic acid was applied afterwards to allay the irritation of the carbolic. 8th.—Cough very bad at night. 9th.—Wound dressed as usual, Fetor much improved. 10th.—Bad night. Rigor about 11 p.m., necessitating administration of stimulants, &c. Discharge from wound again fetid. From this date up till the day of patient's death, on the 28th, he had frequent rigor, the pectorial symptoms increasing in intensity, the discharge varying in quality and intensity. Death took place on the twenty-eighth day after operation.

Post mortem.—*External appearances.*—Height 5 ft. $1\frac{1}{2}$ in. Body poorly nourished. Rigor well marked. Slight discolouration on dependent parts. Upper surface of body extremely anæmic. Pupils somewhat dilated. Two openings, one about $\frac{1}{2}$ in., the other about $\frac{1}{4}$ in. in length, on right side of neck; one immediately below the jaw, the other further down. A considerable quantity of watery-looking pus escaped from each. The right side of the lower jaw, from about $\frac{1}{2}$ in. in front of angle, apparently as far as the joint, was in a state of necrosis, and communicated with the openings above described.

On opening, $4\frac{1}{2}$ oz. of yellow serous fluid in left pleural cavity. Heart weighed $11\frac{1}{2}$ oz. Cone diam.: aorta 1 in.; mitral $1\cdot3$ in.; r. aur. $1\cdot1$ in.; tricusp. $1\cdot7$ in.; l. vent. 3 in.; wall $\frac{1}{2}$ in.; r. vent. $3\frac{1}{2}$ in.; wall $\frac{1}{16}$ — $\frac{1}{8}$ in. Right side two thirds distended with firmly coagulated blood. Aortic valves competent. A firm clot in both ventricles,

Lungs.—Left, 2 lbs. 9 oz., considerably pigmented on the surface, the pigment running in lines corresponding with the intervals between the ribs. Some recent fibrinous effusion on lower lobe. A small fibrous adhesion on upper. On section the upper lobe very œdematous. Some hard patches in it apparently commencing abscesses. In the lower lobe was a pyæmic abscess the size of a hazel nut; ash-grey margin; yellow, somewhat pultaceous contents. Right lung 2 lbs. 1 oz. A large gangrenous, sloughy, ash-grey abscess-cavity, formed by the posterior and outer part of the lowest lobe and the adjacent adherent (?) costal pleura. About 1 oz. of greyish-yellow pus in it, having a strongly putrefactive odour. Whole organ dotted over with small pyæmic abscesses of same character as that above described.

Liver.—4 lbs. 10 oz. Apparently healthy.

Kidneys.—Left, 7 oz. Slightly congested. Right, $6\frac{1}{2}$ oz. In a similar condition.

Spleen.—5 oz. Soft.

Other organs.—The right anterior jugular vein contained a well-marked clot, running downwards into the thorax, apparently into the subclavian. It was greatly dilated. The external jugular vein was also considerably larger than usual. The left anterior jugular vein normal, and contained some fluid blood.

P. M. made thirty hours after death.

Treatment for Teeth which are Sensitive during Excavation.

BY WILLIAM HERBERT ROLLINS.

I HAVE found the following preparations of value:—

R \acute{y} Chloroform 20.0 cubic centimetres.
 Cosmoline 10.0 grammes. M.

Signa No. 1.

Heat 200.0 grammes of glycerine for one hour to drive off the water. After cooling put it into a bottle, and close with a rubber cork.

Use this glycerine for the following:

R \acute{y} Glycerin 2.0 grammes.
 Acid. pyrogallic 1.0 gramme. M.

Signa. To be mixed fresh every morning, and kept under a bell glass with sulphuric acid or calcium chloride.

Directions: (1.) Dry the cavity in the tooth, and keep it free from saliva during the excavation.

(2.) Apply mixture No. 1.

(3.) Apply mixture No. 2.

(4.) Excavate.

(5.) Repeat the application as the tooth again becomes sensitive.

(6.) Vary the strength of No. 2 if it causes pain.

BOSTON, *September 1*, 1880.

Dental Education.

An Introductory Lecture delivered at the Edinburgh Dental School, Session 1880-1.

BY W. BOWMAN MACLEOD, L.D.S.Ed.,

OUR school has now been in existence for twelve months, and like every other institution, has had to encounter all the troubles incident to childhood. These, we may safely say, it has successfully surmounted; and though still subject to the many dangers which encompass the youthful stage of a new venture, struggling for

existence, it presents—thanks to many friends who have ministered to its needs—such a robust and healthy constitution, that it requires not a very sanguine imagination to predict for it a useful and prolonged existence.

To you, gentlemen, who are looking forward to the practice of the profession of Dentistry, and who have entered within its walls that you may equip yourselves with the intellectual armature, and acquire the digital expertness necessary to render you worthy of a place in the company under whose banner you have elected to do warfare in the battle of life, this must be a subject of congratulation and thankfulness. There is not one of those—our seniors—who honour us with their presence to-night, and who, I am sure, wish us God speed in our studies, that would not have rejoiced had their youth been blessed with half the advantages which surround you on every side. Theirs the tedium of a long and arduous apprenticeship to the routine of the laboratory, and the up-picking of information in bits by the way, as best they could, having but little of the formularies of correct science to guide them. Yours the advantage of having had matured minds to formulate a course of study, making easier the routine, and more satisfactory the acquisition of the knowledge requisite for Dental practice. Theirs the disadvantage of having almost to start afresh, each one for himself, grasping here and there a principle, as the varied features of various cases presented themselves; then to be met with many difficulties that for a time puzzled them, there being but little of recorded experience to assist them to a ready solution. Yours the advantage of having access to volumes which contain the outcome of years of patient experiment and research, pursued through many failures and much heart-wearing disappointment, but at last resulting in success. Thus yours the advantage of a thorough and specific training, which places within your grasp the greatest amount of knowledge in the shortest space of time; and, more than all, yours the advantage of having an arena, where, having learned the why and the wherefore, you may, for the space of two years, learn, by practice, the how to do.

But, having these advantages, make sure that you do not mistake the opportunity for the possession. Remember, that although these advantages lie at your feet, you must stoop to pick them up. It may be at the expense of many a spinal ache, and many a dizziness of head, but bend you must. Knowledge will not rise to

you, you must lean down to her. You must bend to your course with patient, plodding, methodical, modest industry, ere you can hope to convert opportunity into possession. You cannot possibly make a success the first, or every time you try; therefore be patient under your reverses. You will encounter many difficulties. Be plodding in your attack upon them. A little bit gained now, and a little bit gained then, and you will surely reach the summit of your desires, when, like Robinson Crusoe, you may exclaim, "I'm monarch of all I survey." You have many things to learn, and but a limited time at your disposal; therefore, be methodical in your application, and, notwithstanding the immensity of the ground to be traversed, you will, when the prospect becomes the retrospect, be astonished to find how little you feel exhausted by your effort. And to these three virtues add modesty. Don't aim at being smart, for your smart man is generally superficial. Don't think, because you have looked in at the door of the Temple of Knowledge, that you have mastered all the Furnishings of the House. Don't flatter yourself that when a teacher—be it by book or by word of mouth—has given you a fact, that you are to rest content. You must learn and comprehend the principle, of which the fact is but an illustration, otherwise you are but as a parrot, and will remain to the end of your day an insufferable fellow, and a half-educated adventurer.

That you are already fully impressed with the importance of the profession on the study of which you have entered, I have little doubt, but it may just be possible that, as some are apt to do, you may be inclined to over-rate some of the subjects as set down in the curriculum, and taught under special headings, to the detriment of those subjects which may be designated general. If this be so, I would take this opportunity of cautioning you against continuing in such an error, for two reasons.—(1.) In any profession, the mastery of each branch is necessary to make a complete whole; therefore each subject, whether general or particular, is of sufficient importance to demand not only close attention and study, but thoroughness in knowledge in each and all of the subjects connected with your studies. To you, as students, this may not be so apparent, but you have the united testimony of all who have loved and practised their profession intelligently, that every day has brought them cases of Dental disease so interwoven with constitutional disturbance, and depending upon constitutional faults; and still more frequently have there come under their

observation remote pathological disturbances dependent upon Dental disease, that unless they had had at least an average acquaintance with general Anatomy, Surgery, Physiology, and Pathology, as well as a competent acquaintance with the specialties of Dental Anatomy and Surgery, they would have failed to diagnose the disease, and consequently failed to effect a cure. (2.) You have to pass an examination in each of the subjects, as set down in the curriculum, and you must not suppose that because you have announced your intention of practising a specialty, that your examiners will be satisfied if you have a knowledge of the ground on which you in after life intend to settle. Such was not the meaning of those who projected and carried through the Dental Bill; and your examiners expect that not only will you have a precise and intimate acquaintance with Odontochirurgy, but that you, whether *curriculo* or *sine curriculo*, will have such a broad and intelligent grasp of general Anatomy, Surgery, and Medicine, that you will be able for any examination in these subjects, from the crown of the head to the sole of the foot. And mark you, if this were not so, the title for which you strive would be but an empty bauble and a grotesque sham, instead of—as I trust it will ever be—a recognised stamp of time methodically spent in the acquisition of necessary knowledge, and the possession of which will be an honoured credential, entitling the holder to the confidence and respect of his fellow men.

But although this is the case, I trust we will never lose sight of, nor under-estimate the importance of the special branch over which I have the honour to preside, and on the study of which we are now about to enter. All here will admit that in importance it is second to none, and that without a thorough mastery of this department, a knowledge of other cognate subjects will be of little avail. That this is so has been recognised by all the pioneers in our specialty, and during the late struggle for its consolidation, and for the regulation of entrance into its practice, or, in other words, for the elevation of what was but an undefined calling, without a status, into that of a legally recognised profession, no point was more firmly battled for than the thorough grounding of the student in the Principles and Practice of Dental Mechanics, as the true and solid substructure upon which all his other studies were to be built, and without which he could not claim to be a Dentist. Mr. Tomes put the matter very pithily, when he said, "The patient—the person most to be consulted—will more fre-

quently suffer at the hands of those who have all the surgical knowledge and no mechanical training, than from those who have a thorough mechanical training, and but little surgical knowledge." You must not, therefore, rest content with a mere theoretical acquaintance with the principles of Mechanical Dentistry, but must also make yourselves masters of the practice; not placing your trust in being able to obtain the services of a good mechanic to do your work, for unless you can do it yourself, you cannot tell others how to do it, nor, when done, can you tell if it is well done. And, moreover, the exercise given to the fingers and joints, and the habit of precision given to the eye, when constructing artificial dentures, or generally speaking, when working with tools of any description, gives a nimbleness, a suppleness, and dexterity which can best be acquired in youth, and confers an ease and grace in manipulation, which stands in good stead when practising the more strictly surgical operations required by the varied demands of the various oral lesions which will in after years claim your care and attention.

Another, and a very strong argument, to induce you to become thorough in this department—although I trust you will never allow it to become the predominating motive—is the fact that there is a great demand for service in this department, and the return for excelling skill in adapting comfortable and useful Dental substitutes is at once both pleasing and substantial. Nor can we anticipate that there will be a less demand in your generation, at least, for it will take a long time to educate a public who at present give so little attention to, and value so lightly the conservation of, their natural organs, to pay that constant and watchful care necessary to prevention, or to endure the pain, trouble, and expense necessarily involved in the curative treatment and preservation of diseased teeth. Nor can we expect that the most careful and scientific conservative treatment of the Dental organ will preserve the glittering row intact through the average duration of life, until there is a thorough revolution in our social organisation, and a radical change in our system of dietetics.

As an existing proof of the correctness of these statements, you have but to glance at the other side of the Atlantic, where conservative Dentistry has its most enthusiastic apostles and most devoted disciples, to find that in no other kingdom or country in the world are there, in proportion to population, a greater number of persons old and young, who have recourse to artificial substitutes.

(To be continued.)

The following legal documents will no doubt exercise an important influence in the disposal of the several hundred cases of alleged incorrect or fraudulent registration in the Dentists' Register, brought under the judicial consideration of the Medical Council by the British Dental Association. The institution of the enquiry has, it is rumoured, led a considerable number of persons to withdraw their names from the Register.

Case *in re* the Dentists Act, 1878.

COUNSEL'S OPINION ON THE INTERPRETATION OF CERTAIN CLAUSES.

From the Minutes of the Representative Board of the British Dental Association.

1 (a). A person who, being at the passing of the Act engaged in the practice of Dentistry, and also in some business not mentioned in the Act, declared himself to have been engaged in the practice of Dentistry separately, is liable to have his name erased from the Register.

(b). A person who declared himself to be engaged in the practice of Dentistry in conjunction with Pharmacy, but whose name was not in the "Chemists' and Druggists' Register," is liable to have his name erased from the Register.

2 (a). I think that an assistant in a chemist's shop, where teeth were occasionally extracted, even if registered in the "Chemists' and Druggists' Register," cannot be considered as engaged in the *bonâ fide* practice of Dentistry, so as to entitle him to remain on the "Dentists' Register."

(b). I think that the occasional performance of one class of Dental operation, such as the extraction of teeth, does not constitute *bonâ fide* practice of Dentistry.

(c). The *bonâ fides* applies equally and separately to the practice of Pharmacy, and an assistant in a chemist's shop, not registered in the "Chemists' and Druggists' Register," cannot be regarded as in the *bonâ fide* practice of Pharmacy within the meaning of the Act.

(d). Whether a Dentist's assistant can be considered as in *bonâ fide* practice, so as to entitle him to be on the Register, depends on the amount and nature of the assistance furnished by him to the Dentist. The assistance must be such as to require the possession of *some* Dental skill and knowledge.

3. The name of a person can be removed from the Register at his own request, without any reason being given by him. Of

course the Registrar would require a *written* request, signed by the person making it. The restoration of a name once removed is a matter for the discretion of the General Council (S. 14), after the facts of the case have been ascertained by the Standing Committee appointed under (S. 15). I do not think that a person desiring to have his name removed could be legally required to make a declaration relinquishing all claim to restoration on the ground of *bonâ fide* practice before the passing of the Act.

4. The witness to the declaration in the Schedule to the Dentists Act is a witness merely to the signature of the declarer; but if he signed, knowing the declaration to be false or fraudulent, he would be liable to be proceeded against under S. 35.

(Signed) G. A. R. FITZGERALD.

Westminster; 20th October, 1879.

Lord Chief Justice Tenterden on what Constitutes "Practising."

[1831, June 8th.]—*The Master of the Company of Apothecaries against Benjamin Greenwood.*

THIS was a case in which A. bound himself apprentice to an apothecary, who resided eight miles from H. The apothecary then took a house at H., in which A. resided, and attended several patients there, the apothecary coming over occasionally, and being consulted by the defendant A. about the patients. At the trial before Justice Park, at the York Summer Assizes, 1831, the judge directed the jury to find a verdict for one penalty of £20, but reserved liberty to the defendant A. to move and enter a non-suit, a rule *nisi* having been obtained for that purpose.

The judgment of the court was delivered by Lord Chief Justice Tenterden, who after stating the case, proceeds as follows:—

"It was argued for the defendant, that if he should be considered as practising within the terms of the Act, every apprentice to an apothecary who, in the absence of his master, should give attendance, advice or medicine, might be so considered. We think, however, that no such consequence will follow.

The Act does not in terms require a practising on the party's own account, and it must be obvious that if a case like the present be not within the Act, a door will be opened whereby the objects of the Act may be evaded, and there may be a practising at several towns under one certificate, and at some of them under the name and colour of apprenticeship, with little or no benefit to the

patients from the skill or knowledge of the person who has obtained the certificate. We think the only safe rule is to confine the practice of apprentices to the residence of their masters, whereby the patients may in general have the benefit of his skill. In the present case, few of the patients could have that benefit in any degree. We, think, therefore, the defendant incurred the penalty of the statute, and consequently the rule must be discharged." Rule discharged.

International Medical Congress, London.

AUGUST 2nd to 9th, 1881.

SECTION XII.—DISEASES OF THE TEETH.

Edwin Saunders, Esq., *President*.

John Tomes, Esq., F.R.S.,
Charles Spence Bate, Esq., F.R.S., } *Vice-Presidents*.

C. S. Tomes, Esq., F.R.S., *Secretary*.

*Proposed List of Subjects for Discussion, subject to revision before
31st December, 1880.*

1. Replantation and transplantation of teeth.
2. Premature wasting of the alveoli, and its amenability to treatment.
3. The share taken by septic agencies in causing diseases of the dental pulp and periosteum.
4. Mercurial and syphilitic teeth, and the causes of irregularities of position of the teeth.
5. New Dental instruments and methods of operating.

The President and Secretaries will feel obliged by your sending a reply, stating if it is your intention to be present at the Congress, and if you have any suggestion as to subjects for discussion.

All communications regarding Section XII. should be addressed to

C. S. TOMES, Esq.,
37, Cavendish Square, W.

A payment of One Guinea will be required from intending members at the time of taking out their Cards of Admission. This will constitute membership, will admit to all the meetings, and will entitle each member to a copy of the transactions of the Congress.

International Medical Congress.

*Seventh Session, London, 1881.**December 1st, 1880.*

DEAR SIR,—You are doubtless already in possession of the fact, that an International Medical Congress, with a section for Diseases of the Teeth, will (for the first time in England) be held early in August, 1881. You will also doubtless infer from the character of those who have charged themselves with giving effect to this intention, that it will be conducted in a manner worthy alike of our profession and of our country. To do this, however, in a manner in all respects satisfactory, a considerable expenditure will be necessarily incurred, which, it is hoped, will be amply provided for by the voluntary offerings of those who have the honour of their profession at heart. If you should not already have forwarded your contribution to the General Secretary, will you entrust me with it at your early convenience, that the hope which I have cherished, that section 12 (Diseases of the Teeth) will not be found wanting, may be realised.

Yours faithfully,

EDWIN SAUNDERS.

President Elect of Section 12.

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Duckworth, Dr. Dyce	5	5	0	Lister, Mr. Joseph	21	0	0
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Forster, Mr. J. Cooper ...	21	0	0	Mann, Mr. John	3	3	0
Forysth, Mr. W. F.	2	2	0	Mann, Dr. R. J.	2	2	0
Fox, Dr. Wilson	10	10	0	Marsh, Mr. Howard	5	5	0
France, Mr. J. F.	3	3	0	Marshall, Prof. John ...	10	10	0
Frank, Dr....	10	10	0	Martin, Dr. Robert	5	5	0
Fraser, Prof. T. R.	5	5	0	Mason, Mr. Fras....	5	5	0
Gairdner, Prof.	10	10	0	Massey, Mr. H. H.	2	2	0
Galton, Dr. John H.	2	2	0	Maudsley, Dr. H....	10	10	0
Gant, Mr. F. J.	3	3	0	Medwin, Mr. A. G.	1	1	0
Gayton, Dr. W.	1	1	0	Merriman, Mr. J. C.	2	2	0
Gervis, Dr. H.	5	5	0	Merriman, Mr. J. J.	2	2	0
Gillespie, Dr. J. W.	1	1	0	Mitchell, Dr. R. N.	5	5	0
Gowers, Dr. W. R.	2	2	0	Monro, Dr. H.	10	10	0
Greenhow, Dr. E. H.	5	5	0	Morris, Mr. H.	2	2	0
Grigg, Dr. W. C.	10	10	0	Mouat, Dr. F. J.	5	5	0
Gull, Sir William, Bart. ...	21	0	0	Moxon, Dr. W. W.	10	10	0
Habershon, Dr. S. O.	10	10	0	Myers, Surg. A. B. R.	3	3	0
Harding, Mr. T. H. G. ...	2	2	0	Nettleship, Mr. E....	1	1	0

Nunn, Mr. T. W....	£10 10 0	Smith, Dr. Protheroe	£10 10 0
Ord, Dr. W. M. ...	... 10 10 0	Smith, Dr. Pye ...	... 10 10 0
Owen, Mr. Edmund	... 2 2 0	Smith, Dr. Richard T.	... 1 1 0
Page, Mr. H. W. ...	... 3 3 0	Smith, Mr. Thomas	... 5 5 0
Paget, Sir James, Bart.	... 21 0 0	Smyth, Dr. S. T. ...	... 1 1 0
Paget, Dr. George	... 10 10 0	Southey, Dr. Reginald	... 5 5 0
Payne, Dr. J. F. ...	... 2 2 0	Spence, Prof. J. ...	... 10 10 0
Peacock, Dr. T. B.	... 10 10 0	Starling, Mr. J. ...	... 1 1 0
Pitman, Dr. ...	... 10 10 0	Statham, Mr. H. W.	... 5 5 0
Playfair, Dr. W. S.	... 10 10 0	Stevenson, Dr. T....	... 1 1 0
Pollock, Mr. George	... 10 10 0	Taylor, Mr. Thomas	... 3 3 0
Poore, Dr. G. V. ...	... 5 5 0	Taylor, Dr. S. T. ...	... 2 2 0
Powell, Dr. Douglas	... 3 3 0	Teale, Mr. T. Pridgin	... 10 10 0
Power, Mr. Henry	... 10 10 0	Thompson, Sir Henry	... 21 0 0
Priestly, Dr. W. O.	... 21 0 0	Thornton, Mr. W. Pugin...	2 2 0
Purser, Prof. ...	... 2 2 0	Thorowgood, Dr. John	... 1 1 0
Quain, Mr. Richard	... 10 10 0	Tomes, Mr. Charles	... 21 0 0
Rae, Dr. John ...	... 1 1 0	Tomes, Mr. John ...	... 21 0 0
Read, Mr. J. Lawrence	... 2 2 0	Travers, Dr. W. ...	... 2 2 0
Rees, Dr. G. Owen	... 21 0 0	Turner, Dr. Charlewood...	1 1 0
Roberts, Dr. W. ...	... 21 0 0	Turner, Mr. James Smith	5 5 0
Robertson, Dr. Lockhart	10 10 0	Turner, Prof. William	... 5 5 0
Robinson, Mr. H. S.	... 2 2 0	Tweedy, Mr. John	... 2 2 0
Rogers, Mr. G. H.	... 3 3 0	Vance, Mr. W. J. ...	... 1 1 0
Rogers, Mr. Henry	... 5 5 0	Venning, Mr. Edgecumbe	5 5 0
Rogers, Mr. T. A....	... 21 0 0	Vernon, Mr. J. Bowater	... 2 2 0
Rolleston, Prof. ...	... 5 5 0	Walker, Dr. J. ...	... 21 0 0
Roper, Mr. G. ...	... 2 2 0	Watney, Dr. Herbert	... 2 2 0
Rugg, Dr. G. P. ...	... 1 1 0	Watson, Sir Thomas, Bart.	10 10 0
Rutherford, Prof. W.	... 2 2 0	Weber, Dr. Hermann	... 21 0 0
Sanders, Prof. W. R.	... 21 0 0	Wells, Mr. T. Spencer	... 21 0 0
Sanderson, Prof. Burdon	5 5 0	West, Dr. Charles...	... 5 5 0
Sauer, Mr. James...	... 5 5 0	Wheelhouse, Mr. ...	... 10 10 0
Sansom, Dr. A. E.	... 5 5 0	White, Mr. T. Charters	... 1 1 0
Saunders, Mr. Edwin	... 21 0 0	Wilks, Dr. S. ...	... 21 0 0
Saunders, Dr. George	... 2 2 0	Willett, Mr. Alfred	... 5 5 0
Savage, Dr. G. H....	... 5 5 0	Williams, Mr. C. ...	... 2 2 0
Savory, Mr. W. S.	... 21 0 0	Williams, Dr. J. ...	... 5 5 0
Sieveking, Dr. E. H.	... 10 10 0	Wilson, Mr. Erasmus	... 21 0 0
Simon, Mr. John ...	... 10 10 0	Woodhouse, Mr. A. J.	... 21 0 0
Slyman, Mr. W. D.	... 1 1 0	Wood, Mr. John ...	... 10 10 0
Smith, Mr. E. Noble	... 1 1 0	Wright, Mr. W. Kelson	... 2 2 0
Smith, Mr. Henry	... 21 0 0	Wyman, Dr. W. S.	... 2 2 0

GUARANTEE FUND.

Rogers, Mr. T. A....	... 21 0 0	Tomes, Mr. C. S. ...	... 21 0 0
Saunders, Mr. E. ...	... 21 0 0	Tomes, Mr. John ...	... 21 0 0

Odontological Society of Great Britain.

At the ordinary monthly meeting, December 6th, 1880,
ALFRED WOODHOUSE, Esq., President, in the Chair,

Mr. GEORGE LYDDON read a communication on the
behaviour of patients during the administration of Nitrous
Oxide gas. The most remarkable of the cases related was

the following: A clergyman, engaged in the active duties of his profession, came to Mr. Lyddon to have some teeth extracted, and requested to have the gas administered, rather from a desire to test its effects than from any dread of the pain of the operation. He was apparently a strong, healthy man, but said that he suffered so much from dyspepsia that he was compelled to live almost exclusively on biscuits and champagne or claret. The patient's medical attendant being present, Mr. Lyddon administered the gas. The patient inhaled it freely and well, but after taking a considerable quantity, declared that it was having no effect upon him, and as it was evident that this was the case; the attempt was abandoned. Although he had apparently inhaled about twenty gallons of gas, it had no more effect upon him than if it had been common air. Mr. Lyddon then operated without the aid of an anæsthetic. He stated that he was in the habit of giving the gas from one of Ash's six gallon gasometers, supplied from a liquid gas bottle, and that he made no attempt to economize the gas in any way. Mr. Lyddon was inclined to think that the frequent use of alcoholic stimulants might affect the chance of a successful result from the administration of nitrous oxide, though in this case the patient was not an inebriate, and nearly the same result followed in the case of a lady who took but little, if any, stimulant. In this case, also, he could not succeed in inducing anæsthesia, and in order to effect this, he had to abandon the gas in favour of chloroform, which at once acted satisfactorily.

Another exceptional case was that of a gentleman who came to Mr. Lyddon in September, 1879, and took to gas most satisfactorily. He came again a few days later, but on this occasion, after inhaling it quietly for a short time, he rose up suddenly and made a determined attack on a tumbler which stood near him. He missed this, but beat wildly about the room for some minutes, attacking everything that came in his way, including the door, returning, however, to the tumbler, which he at last succeeded in

smashing to atoms; this done, he fell exhausted on the floor. He soon came to himself, and was greatly astonished to find the state he was in and the destruction he had caused. Mr. Lyddon then sent him home, and extracted the stumps at another sitting without administering any anæsthetic. In this case, as in the other, air was most carefully excluded, and Mr. Lyddon was quite unable to give any satisfactory explanation of the phenomena.

The PRESIDENT said he could not say anything on this subject from his own experience, for although gas had been administered for him—he did not give it himself—in a large number of cases, he had never yet seen it fail to produce its proper effect. Possibly, however, some other members present might have met with similar cases, or might be able to suggest some explanation as to the cause of these exceptional phenomena.

Mr. COLEMAN asked what length of tubing Mr. Lyddon used? If this was long, the friction was so much increased that it was almost impossible to get the gas supplied rapidly enough, and if the patient inspired strongly, air was drawn in to supply the deficiency. He thought that the experience gained by so many thousands of successful cases pointed strongly to the probability that when a failure did occur, it would be found to be in some way due to imperfection in the apparatus used. His own experience was that *with a free supply of gas*, failure was impossible.

Dr. WALKER asked whether Mr. Lyddon's patient had much hair on his face, or whether he had any marked peculiarity of the features, which might have interfered with the perfect coaptation of the face-piece? What kind of cushion did Mr. Lyddon use? He felt sure from his own experience that by some means or other air had been admitted, and that the patient could not have breathed twenty gallons of pure gas without being fully anæsthetised.

Mr. HUNT (of Yeovil) said that all who had experience

in the administration of gas would conclude, from the fact that such cases as those reported by Mr. Lyddon were so exceedingly rare, that when they did occur there was the strongest probability that there must be some mistake. Some months ago a gentleman wrote to the *Times* declaring that he had been found to be insusceptible to the influence of nitrous oxide, and this elicited several replies pointing out various sources of fallacy. In one of these letters the case of a gentleman was mentioned who was apparently proof against the gas, but on examination it was found that the expiratory valve of the face-piece was kept open by the top of the patient's unusually long nose, and that, consequently, he was breathing air instead of gas. He himself had never met with any case resembling Mr. Lyddon's, and he believed that if a free supply of gas was kept up with a moderate amount of pressure, and if due care was taken to prevent admixture of air it was impossible for the patient to escape anæsthesia.

Mr. W. E. HARDING said he believed Mr. Coleman's remarks about the tube went to the root of the matter. He felt convinced that those usually supplied with the apparatus were too small. Acting on this conviction he had attached to his own apparatus a tube, an inch and a quarter in diameter, and since making this change he had found that patients took the gas better and with less excitement. Another point to which he attached importance was that the gas should be supplied at some pressure; before opening the supply valve in the face-piece he always fully distended the rubber bag, and as it collapsed kept up the pressure by placing his hand upon it.

Mr. STOCKEN mentioned two cases of failure which had occurred in his own practice. In one of these he was able to establish the fact that the gas, as supplied to him by the makers, had been largely contaminated with air, and that he had, in fact, been giving compressed air instead of gas; but in the other case, though he examined all the parts of his apparatus carefully he could find nothing wrong, and was still at a loss for an explanation.

Mr. DENNANT said that though such cases were very rare, he believed that they did occasionally occur. Thus a lady came to him one afternoon; she inhaled a large quantity of gas, but it produced no effect—she was not even excited. At his request she returned next morning, and anaesthesia was then induced without the least difficulty. Again, in the case of a gentleman who was exceedingly nervous before the operation, alarming stertor came on before the patient was fully anaesthetised; but, on the next occasion, when he had got over his fear, he took the gas well and without any unusual symptoms. He believed that the mental condition of the patient was a very important factor in such cases.

Mr. LYDDON stated in reply that he used some five or six feet of the ordinary tubing which was supplied with the apparatus. The patient had not bushy whiskers and there was nothing at all remarkable in his features. The cushion was of the ordinary pattern supplied by Messrs. Ash; and as to the apparatus generally it acted perfectly with the very next patient, without any alteration having been made, and he had used it many times, both before and since without anything unusual occurring.

Dr. WALKER handed round a model of the mouth of a lad eleven or twelve years of age, who was the subject of the following remarkable deformity. The anterior portion of the alveolar process of the upper jaw was so greatly enlarged that the upper lip was pushed out and raised to the level of the nostril. The parents said that until lately the patient had no teeth in the upper jaw and that he never had any of the first set in the lower; the hypertrophous enlargement first began to be noticeable when the boy was about seven years old, but it was only within the last eighteen months, that it had been sufficiently marked to attract attention. The patient was sent to Dr. Walker by Mr. Macnamara, of Westminster Hospital, and Dr. Walker took him to Mr. Tomes; all of them agreed that his appearance and speech might be greatly improved by a surgical operation, but as yet the parents would not

give their consent. In reply to some remarks by Mr. David Hepburn, Dr. Walker said it was not simply a case of hypertrophy of the fibrous structure of the gum, the enlargement was evidently osseous.

The PRESIDENT showed a model of the mouth of a boy aged 14. One of the permanent canines had been erupted quite outside the first bicuspid, the temporary lateral and canine on that side being still firm. As there appeared to be little chance of being able to bring the misplaced canine into its place, Mr. Woodhouse extracted it and left the temporary teeth in position.

Mr. COLEMAN showed, for Mr. Davy of Romford, a couple of odontomes, one was extracted from the mouth of a young man who had been rejected as a recruit on this account but who was passed after its removal; the other patient was a young girl.

Mr. J. C. FORAN showed models of the mouth of a young lady, aged 16, showing a V-shaped dental arch with a most unusual amount of contraction in the neighbourhood of the upper second bicuspid, the space between the lingual surfaces of these teeth being less than half an inch. The patient's mother had the same sort of deformity, but to a much smaller extent. Mr. Foran had removed both the upper second bicuspid, and the case was still under treatment. The model of the lower jaw showed nothing unusual.

Mr. W. E. HARDING showed a case of lateral delaceration of a central incisor. The patient from whose mouth, it was removed, had not met with any violence, and could not at all explain how it had occurred. He showed also a curiously deformed second molar, the wisdom tooth having apparently grown into it; it had been removed by his partner without any unusual difficulty.

The PRESIDENT then opened a discussion on the advisability of retaining or extracting the first permanent molars with a short statement of his own rules of practice.

The first permanent molars being in men the largest teeth in the Dental arch, and the most complex in form

were more liable to fissures and defects than any of the other teeth, and consequently were the most prone to decay. This fact had induced some practitioners to advise the removal of these teeth in all cases at an early period of life, even where the mouth was not crowded; but his own experience led him to disapprove of this practice. It was not an uncommon thing to find these teeth in a perfectly healthy condition in the mouth of patients advanced in life, a proof that they were not so hopelessly bad as some would assert; and the removal of these teeth, which were the best developed, most firmly rooted, and consequently most efficient of the grinders, and which occupied the position where most work had to be done, and the substitution for them of the much smaller second molars was such an evident loss to the mouth, that the operation should most certainly be avoided if possible.

If, therefore, in a crowded mouth he found that all the teeth were sound, he should, at the right age for thinning the teeth, much prefer to remove one of the bicuspid, the second for preference, and to leave the first molar in place. But if the patient was brought with a crowded mouth, and many of the teeth decayed, the case required more consideration. In many cases the patient was not seen until the teeth were so extensively decayed, that it was evident that they would not admit of an efficient and durable stopping later on. In such cases, if the pulp was not diseased, and the patient under twelve years of age, he should stop the molars until the time arrived for their removal, but if the pulp was exposed, and had given pain, he preferred to remove the tooth at once on account of the difficulty of getting children to submit to the somewhat tedious and painful operation of removing the pulp, filling the roots, &c.

In the case of children who were brought to him for periodical examination, he often found the first molars began to show signs of decay shortly after their eruption. The cavities are then small, the removal of the decay with

the engine gives little pain, and takes but a short time; stoppings thus put in will save the teeth for eight or ten years, and at the expiration of that time they can be restopped with gold and rendered useful for life. As a rule, at this early period, the decay would appear on the grinding surface, and then the above treatment was indicated, but if the decay was situated on one of the proximate surfaces, although he should make an attempt to preserve them until the proper time for thinning the mouth arrived, he should then in most cases remove them, especially if the decay was situated on the posterior surface. If the decay should be on the anterior surface, and after some years there appears to be no tendency for it to increase, and if the rest of the series are sound, he would retain the tooth, and remove the second bicuspid.

In mouths which are not crowded, it was of course most desirable to preserve even much decayed first molars until the second are about to be erupted. But in such cases he should remove these teeth earlier than in crowded mouths, for, as space for the bicuspid was not required, it was desirable that the second molars should advance as much as possible. In this case, therefore, he would remove the first molars just before the second were erupted, whilst if the front teeth were crowded, he should wait until the second molars were fully developed. As a rule he preferred to remove the whole of the series, whether first molars or bicuspid, as the remaining teeth then articulated more perfectly, and the mouth was more symmetrical.

MR. THOMAS ROGERS said he believed that all present would agree in approving of the rules of treatment which they had just heard from the President. Although it had been at one time the practice to extract the first molars on the slightest excuse, he believed that this had now been generally discontinued. He himself was quite of Mr. Woodhouse's opinion that a first molar stopped would in many cases last longer than a bicuspid, and would certainly be more useful; if therefore he had to sacrifice one or the other, he should generally decide in favour of the molar.

Mr. F. CANTON said he was decidedly in favour of retaining the first molar whenever practicable. In cases of crowding especially, he thought that the removal of a bicuspid afforded more relief than did the extraction of the molar.

Mr. HUNT (of Yeovil) remarked that the President had put the matter so clearly, that he should be surprised to find that there were any dissentients. He mentioned the case of a patient of his, a gentleman, who although he was 6ft. 4 in height, had a remarkably small jaw. Mr. Hunt removed both the bicuspids on each side, and, as that did not relieve the crowding, extracted the first molars as well; now the second molars were in contact with the canines.

Mr. S. J. HUTCHINSON said that with reference to the extraction of the first molars in order to gain space for the expansion into line of over-crowded front teeth, he believed that the time at which the operation ought to be performed was not the only point to be attended to, but that much depended also on the way in which it was done. He thought that only one pair of first molars should be extracted at a time, the upper pair first for preference. The lower second molar was then kept in place by the retained first molar, and by its articulation with the upper second molar, had a strong influence in keeping that tooth from moving forwards. When the upper front teeth had been got fairly into line, the lower first molars might be removed, and the lower second molars would now in turn be kept back by their articulation with the upper pair.

With regard to the best means of temporarily preserving first molars after the pulp had been exposed, he had obtained good results from a modification of the operation of rhizodontophy, which he believed had been first practised by Mr. Henry Long Jacob. It consisted in clearing out the pulp cavity, but not the root canals; the floor of the pulp chamber was then covered with a platinum plate and a small hole drilled into the root through the neck of the tooth, just above the margin of the gum. The pulp cavity could now be filled on the platinum, and a tooth so treated would remain quiescent for some years.

DR. WALKER said that during the fourteen years he had been Dental Surgeon to the Westminster Hospital, he had noticed a steady deterioration in the first molars of the children who came to his out-patient room. Formerly the enamel was fissured and imperfect, but now there was seldom any enamel at all to speak of, and most often the crown was gone as well. Amongst the better class of patients the state of things was not much better, so that although he was always glad to extract a bicuspid instead of a first molar whenever he could do so with advantage, he was sorry to say that the condition of the latter allowed teeth seldom any choice.

Mr. ASHLEY GIBBINGS agreed with the President as to the importance of removing the corresponding teeth on both sides; he had seen cases in which the patient's appearance had been greatly injured by inattention to this point, the centre of the arch being driven to one side, and the symmetry of the mouth spoiled. With regard to the extraction or retention of the first molars, he thought it was difficult to lay down general rules, there were so many points to be considered that he preferred to judge of each case by itself. He urged the importance of examining the bite before deciding on the treatment of crowding by extraction of bicuspids or first molars; it was useless to expect a tooth in the upper jaw to go back when it was kept in place by being interlocked with one in the lower. Inattention to this was not an unfrequent cause of failure.

The PRESIDENT then briefly replied, and the meeting terminated with the usual vote of thanks to the contributors of the evening.

Odonto-Chirurgical Society of Scotland.

THIS Society held its second meeting for the Session 1880-1 in the Edinburgh Dental Hospital, 30, Chambers Street, Walter Campbell, L.D.S. Eng., of Dundee, in the Chair.

Messrs. W. P. Robertson, Aberdeen, John Stewart,

Perth, Walter Whitehouse, L.D.S. Edinburgh, of London, and Norman MacQueen, Hamilton, were nominated for membership.

Dr. H. Williamson's paper on Nitrous Oxide, and Mr. Macleod's communication, read at previous meetings, on Nitrous Oxide and Ethidene dichloride, were then taken up and discussed. This occupied the whole sitting. The other subjects set down for consideration were, in consequence, postponed till next meeting, which takes place on the second Thursday of January, 1881.

National Dental Hospital and College.

THE dinner of the Staff and the Past and Present Students was held at the Guildhall Tavern on the 18th ult., Mr. Oakley Coles occupied the chair, and over sixty sat down.

The usual royal toasts having been given.

Mr. STOCKEN proposed "The Committee of Management." He thought the best thanks of those present were due to the gentlemen whose united efforts had been followed by the grand results of that meeting. Their present chairman had the faculty of putting every man in his proper place; and to him, to their energetic Secretary, and to the Dean, were they specially indebted.

Mr. STEELE, in responding, said he had of late years done very little in the more active work of the charity; but the management had paid off the debts which had hung so heavily upon them, that thoughts were at one time entertained of giving up the hospital, but acting on the advice of Mr. Edwin Saunders, they increased their efforts and brought the Charity into its present flourishing condition.

Mr. COLES, in proposing "The Consulting Staff," said it was intended to invite those distinguished members of the profession to give a few lectures embodying the results of their vast experience in diseases incidental to Dental Surgery, and so utilise the power of their esteemed consulting staff.

Dr. BROADBENT was pleased with their progress, and would at all times be willing to do what he could to promote their interests, and thought that gatherings such

as that was tended to unite the staff and pupils, and elevate the general tone of the school.

Mr. WOOD (Brighton), in proposing "The Medical Staff," said the list contained the names of gentlemen who were associated with him in the days of yore. Dr. Broadbent referred to the consulting staff being a sinecure. He (Mr. Wood), was glad of that. It showed that the general ability of the working staff was equal to all occasions.

Mr. WILLIAMS, responding, said it was a great pleasure to find teachers and students in such accord. He relied on the past to speak for itself; for the future he could safely say that the knowledge and best energies of the medical staff will ever be at the services of the students.

The Rev. Dr. BELCHER proposed "The National Dental Hospital and College." He said Dentistry was a science which dated back 2000 years. It was of classical renown, and had an artistic side to it. Martial chaffed a young lady for wearing teeth which were not her own. The same thing was found in Greek history. He had lately seen a set of teeth which were found in an ancient tomb, but he hoped they did not belong to Helen of Troy.

The toast of "The Past and Present Students," was proposed by Mr. WEISS, who reverted to the days when his professional life began. At that time there were no Dental students, but pupils had to pick up the crumbs which fell from the medical man's table. Now the Dental student was a recognised personage in the medical schools, with special privileges and opportunities.

Mr. STEPHEN HOOLE replied on behalf of the old students.

Mr. FREDERICK ROSE, a present student, spoke in flattering terms of the efforts of the staff. From the evidence of the success of the School, and the earnestness of their teachers, it required no prophet to predict a great future for the National Dental Hospital and College.

Mr. H. J. ALEXANDER having replied to the toast of "The Students and Staff of the Dental Hospital of London."

Mr. HARRY ROSE proposed "The Dean." He spoke of Mr. Gaddes in terms of high compliment, and the toast was drunk with enthusiasm.

Mr. GADDES replied.

Mr. W. F. HENRY proposed "The Visitors," which was responded to by Dr. MOREL MACKENZIE.

Mr. WM. BATES proposed, "The Chairman."

Mr. COLES replied.

Several songs were sung, and a very enjoyable evening was spent.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SUGGERY."

GENTLEMEN,—Will you kindly state in the next number of the REVIEW, how the law affects the following practice:—A is a registered Dentist in practice in London, and employs B, C, D, &c., to visit country districts one day a week or fortnight, as the case may be; now it is evident that in those country places A does not practice, and B, C, D, are not registered. Can such modes of practice be legitimate?

I am, gentleman, yours very truly,

G. J. WILLIAMS.

17, Cavendish Place, Cavendish Square, W.,

25th Nov., 1880.

P.S.—The case of the Apothecaries' Company and Greenwood, at page 584, will answer Mr. Williams' enquiry.

TO THE EDITOR OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

GENTLEMEN,—On Sunday, Nov. 21st, I received an envelope bearing only the Liverpool postmark, containing what purported to be a printed list of officers of the British Dental Association, and on other side of the paper, an "Extract from Bye-Laws."

Glaring errors in the list, and the "extract," convinced me at once that the document was unauthentic. Upon examining the envelope, I discovered the name of a stationer in "*Oxford Street, Manchester*," and on comparing the handwriting with some other specimens in my possession, I arrived at the firm conclusion that this was just another of those anonymous productions which injure nobody so much as the individual who wastes his time and his money in issuing them.

I should not have noticed the matter, but for the fact that this false and unauthorised paper has been scattered far and wide

beyond the limits of the Dental profession, and some have imagined that as it was posted in Liverpool, it emanated from

Yours truly,

W. H. WAITE.

*Hon. Sec. of the Midland Branch
of British Dental Association.*

Obituary.

HENRY MARSH, Esq., L.D.S. ENG.

WE regret to announce the premature decease of Mr. Henry Marsh, L.D.S. Eng., of Oxford Road, Manchester, which occurred on November 3rd, after three days' illness. Mr. Marsh had taken great interest in the recent meeting of the Midland Counties branch of the profession in Manchester; and the paper on nitrous oxide which he read before that meeting was the opening article in our last number—a number he did not live to see. His enthusiasm led to his overworking himself, and it is supposed that he must have been exposed to malaria, as the symptoms of his fatal illness were those of suppressed typhoid, complicated by acute pneumonia. He had taken part, on October 30th, in a demonstration of ragged schools, in connection with the centenary (he being a co-superintendent of Jackson Street School), and the exposure in the streets on a damp day brought on cold.

Mr. Marsh was a native of Chester, where he received his introduction to Dental Surgery at the hands of Mr. Bullen. He was subsequently with Mr. H. Long Jacobs, of Birkenhead. His student life at the Dental and Middlesex Hospitals was very successful, and he took the two Silver Medals of his year. It was a favourite idea of his to found a Dental school in connection with the Victoria University, the buildings of which (known originally as Owens College) were opposite his residence; and his energy, aided by his local brethren, some of whom had offered their assistance, would doubtless have succeeded in adding this branch of study to the great northern university. He has passed away at the early age of 33. His practice is being continued, in the interest of his widow and two orphan boys, by his brother, Mr. William Marsh, L.D.S.—*British Journal of Dental Science.*

Royal College of Surgeons of Edinburgh.

THE following gentleman passed his first professional examination for the licence in Dental Surgery on October 19th:—

George John Spiers Bennison, Southsea.

And on October 21st the following gentlemen passed their final examination, and were admitted Licentiates in Dental Surgery:—

Edwin Alfred Cormack, Edinburgh.

Humphrey Wingfield Tracey, Ipswich.

George John Spiers Bennison, Southsea.

Annotations.

CARBOLIC ACID IN FACIAL ERYSIPELAS.

Dr. Rothe observes (*Betz. Memorabilien*, 1880, No. 9), that however efficacious the subcutaneous injection of carbolic acid proves in arresting the course of erysipelas, it is not suitable when the face is the part attacked, for not only does it give rise to considerable pain, but induces a swollen and painful condition of the periphery. For some years past he has been in the habit of using the following application:—Acid carbolic., sp. vini., āā one part, ol. terebinth. two parts, tinct. iod. one part, glycerin. five parts; pencilling the inflamed skin and its vicinity with it every two hours. No pain or sense of burning is produced, and the skin is usually next day pale and wrinkled. The further progress of the disease is more effectually arrested than by any other remedy, any new patches being rapidly effaced, so that in three or four days the facial erysipelas is usually at an end. The pencilled places should be covered by a very thin layer of wadding. When febrile action is present the ordinary internal measures must also be resorted to.

The Dentist Register, published by the General Medical Council, a copy of which is sent by the Government to every Law Court in the United Kingdom, gives 5,289 as the total number of Dentists; of these 482 are licentiates in Dental Surgery of one or other of the Colleges of Surgeons; 52 practice Dentistry in conjunction with Medicine or Surgery; 2,707 practice Dentistry separately, and 2,049 practice Dentistry in conjunction with Pharmacy. The two latter classes are without Dental or Medical qualifications, and are registered as in *bonâ fide* practice before the passing of the Dentist's Act.

RECENT DENTAL APPOINTMENTS.

On Friday, the 12th, the Council of Queen's College made the following appointments in their new Dental School:—

To the chair of Dental Surgery, Mr. Thomas Hawkins, M.R.C.S.; to the chair of Dental Mechanics, Mr. Charles Sims, L.D.S., R.C.S., Eng.; to the chair of Dental Anatomy, Mr. F. Herbert, Batchelor L.D.S., R.C.S.I.

A DINNER of the past and present Students of the Dental Hospital of London was held at S. James' Hall on Tuesday, December 7th, a notice of which will appear in the January number of this journal.

TO CORRESPONDENTS.

ALL communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

All inquiries respecting Advertisements and Subscriptions should be sent to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

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Author (Monthly Review of Dental Surgery) **H.R. Abbott**
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